K7 SERIES

USER'S MANUAL

Analog DVR

K7-e400

K7-e800

K7-e1600

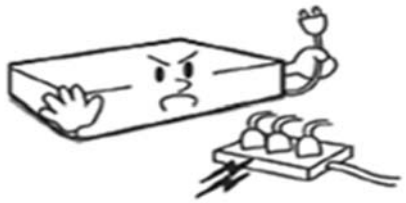
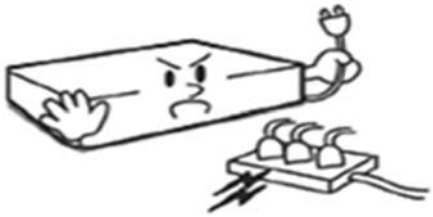
For safe use of system and to prevent product failure or accident, please read this manual carefully before use.

Before Use

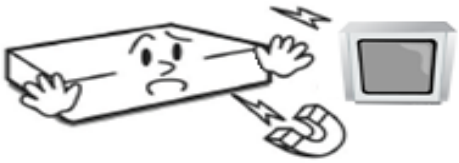
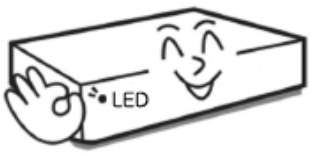
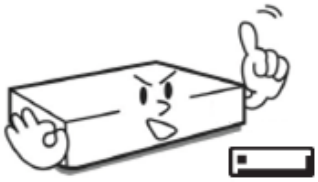
This product has been designed and manufactured to assure personal safety. Improper use can result in electronic shock or fire hazard. The safeguards incorporated in this product will protect you if you observe the following procedures for installation, use, and servicing.
This product does not contain any parts that can be repaired by user.

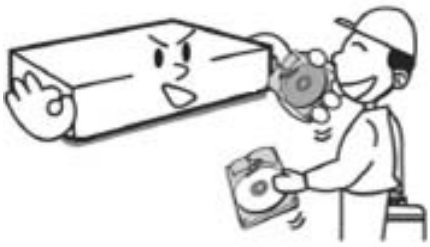
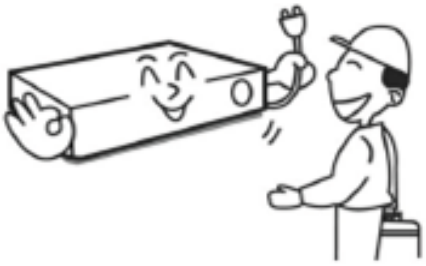
[Note]
Some contents of this manual are subject to change for function improvement.

Caution

<table>
<tr><th colspan="2">Warning</th></tr>
<tr><td>Check if the power is switched off before installation. Don't plug in at the same time. Otherwise it may be set on fire or put you at the risk of electrocution or damage.
  </td><td>Check if the power is switched off before installation or additional repair. Never plug in while the device is in operation. Otherwise it might be set on fire or put you at the risk of fire, electrocution and damage.
 </td></tr>
<tr><td>Keep the cables at least 15 centimeters away from the wall and at least five centimeters away from the side so that the cables, including power line and video cable, may not be disfigured. Otherwise it might put you at the risk of fire, electrocution and damage.
 </td><td>Never uplift the cover, break down, repair and maintain at your disposal. Otherwise it might put you at the risk of fire, electrocution and damage.
 </td></tr>
<tr><td>Keep the device environment always clean before and after installation of the device. Use dry cloth to clean the device. Never use any organic solvent. Otherwise it might be the cause of electrocution or mechanic disorder.
 </td><td>Input voltage of the device should come within the range of 10 percent of specified voltage. Use separate wall power to keep heating appliances, including hair dryer, iron and refrigerator. Otherwise it might be the cause of fire and electrocution.
  </td></tr>
</table>

When strange noise or smell is sensed, immediately plug out and send inquiry to service center or seller. 	Do not install device in humid place filled with dust. It might be the cause of electrocution and fire.

Caution	
Do not install the device in any place where strong magnetic flow, electric wavelength and vibration may be sensed or where radio, TV or other wireless device is located. Keep the device away from magnetic flow, electric wave or vibration. 	Do not put anything heavy on the product. Otherwise it may be the cause of disorder.
Strong shockwave or vibration may be the cause of mechanic disorder. Please be careful. 	Be careful so that anything conductive may not fall into the ventilation hole. Otherwise it may be the cause of disorder.
Check if power switch and record on the front side of the product is still turned on. 	When HDD is overloaded, you change the setting to keep recording. In that case, check again if it would be OK to eliminate the saved data. 

When HDD saving data gets old enough, video data to be saved may suffer so much damage that it may be irreparable. If screen appears broken while regenerating data saved in HDD, it means HDD won't work any longer. Immediately contact service center to replace them. 	When any abnormal sign is detected, Immediately contact seller or service center. 

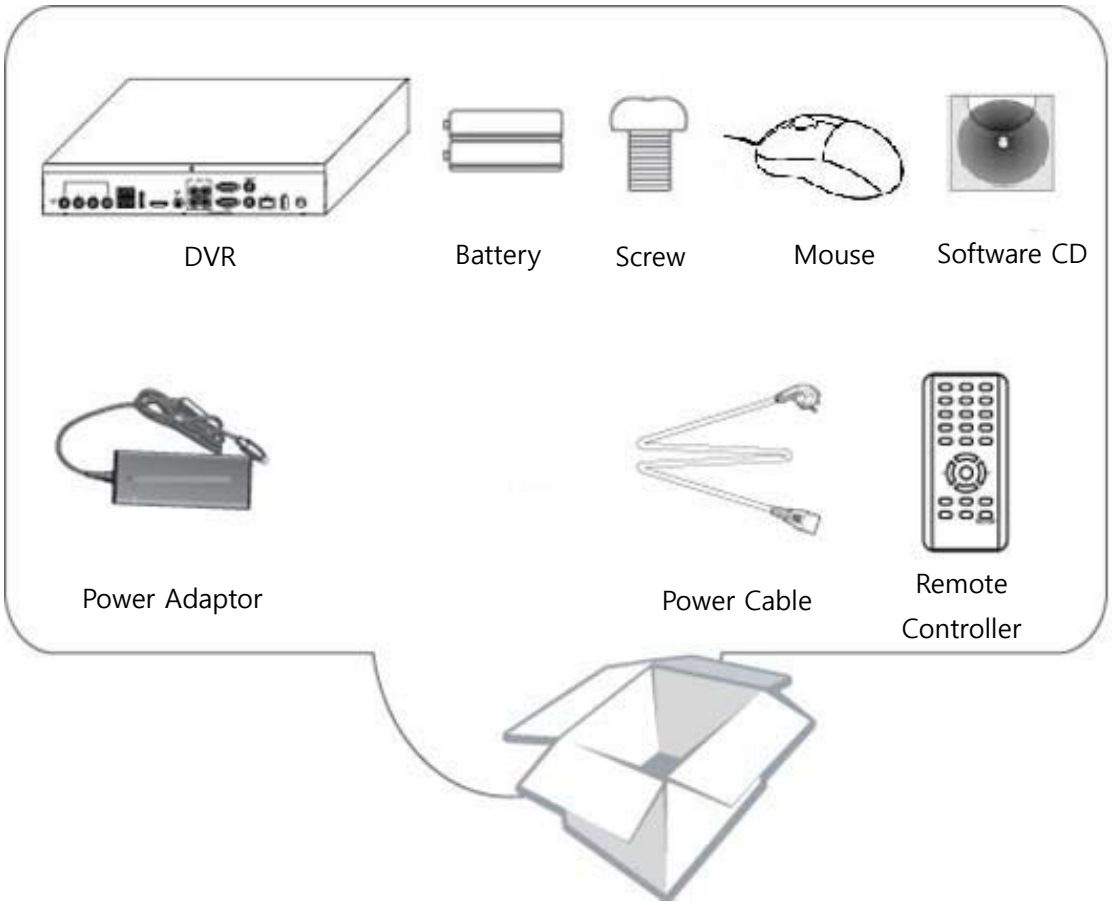
Caution : Any changes or modifications in construction of this device which are not expressly Approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note : This Equipment has been tested and found to comply with the limits for a Class A digital A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Warning :

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Check Components



Component	Description
DVR	Stand Alone Digital Video Recorder
Battery	1.5V (AAA) 2 PCS.
Screws	For HDD mounting x 4, rack mounting x 8
Software CD	CD with manual, Client software
Power Adapter	DC 12V 3.5A (4,8CH) / DC 12V 5A (16CH)
Power Cord	Power cable
Remote Controller	For DVR operation
Mouse	For DVR operation
Rack Mount Brackets	Rack mount brackets 2 PCS (For 16CH only)

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Chapter 1. Features & components

1-1. Features

This Standalone Digital Video Recorder is capable of high quality of video and audio data recording and provides various ways of data search by Calendar, Date/Time and event. Also the system allows remote user to access in order to monitor and control multiple local DVRs via TCP/IP & LAN connection.

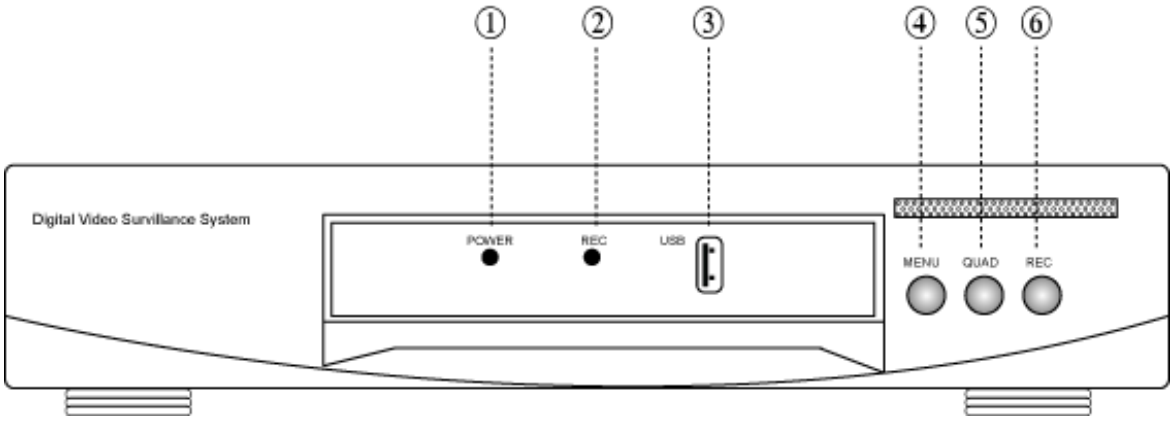
Main feature

- Able to control the PTZ by using mouse like joystick
- Front USB port for easy backup
- Support Megabit Ethernet.
- Able to access internet with dynamic IP address
- Support Dual-Stream network transmission.
- TV out, VGA out
- Able to set the resolution, frame and quality per channel.
- Support a number of PTZ protocol
- Support Central Monitoring Software (CMS).

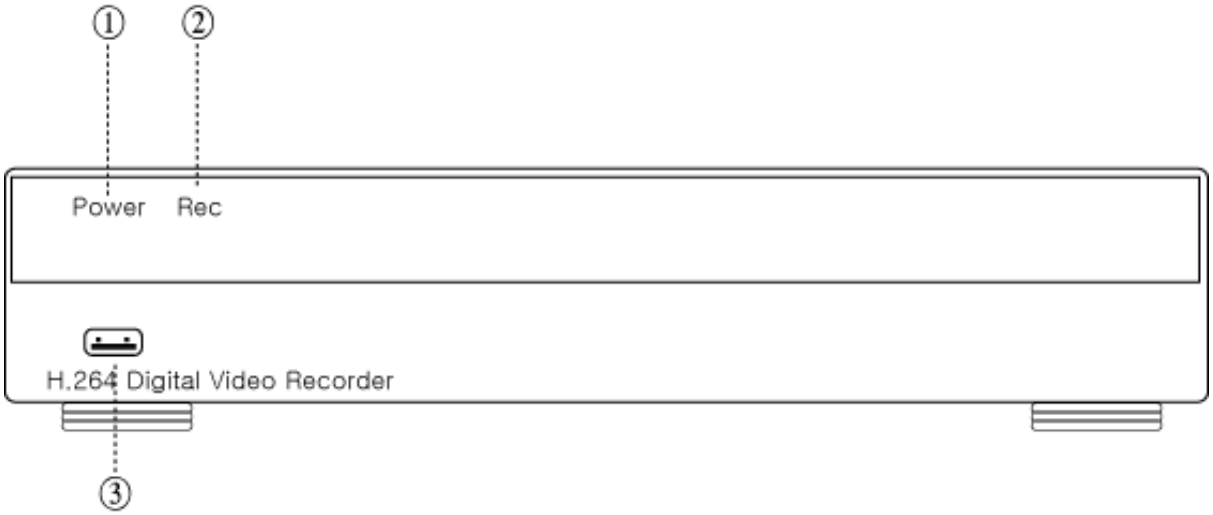
Application

√ Banks, ATM machine, supermarket, convenience store and other places
√ Private homes, apartment buildings, jewelry store, commercial buildings
√ places requiring safety for children such as school, elementary school and playground
√ warehouse, storage house and workplace
√ Places requiring remote surveillance

1-2. Name and Function of Front Panel



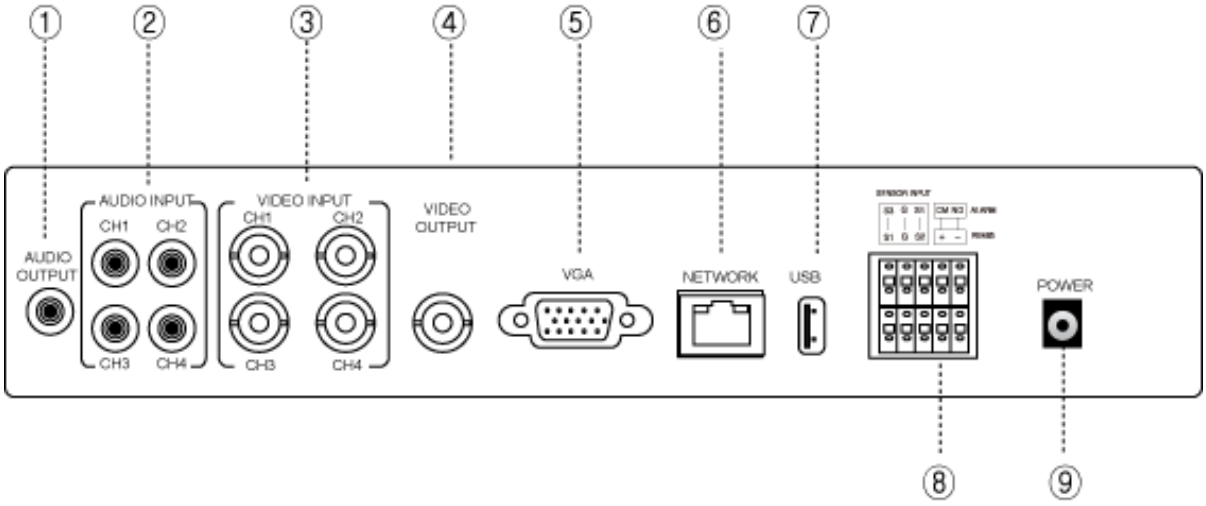
(4Ch / 8CH DVR)



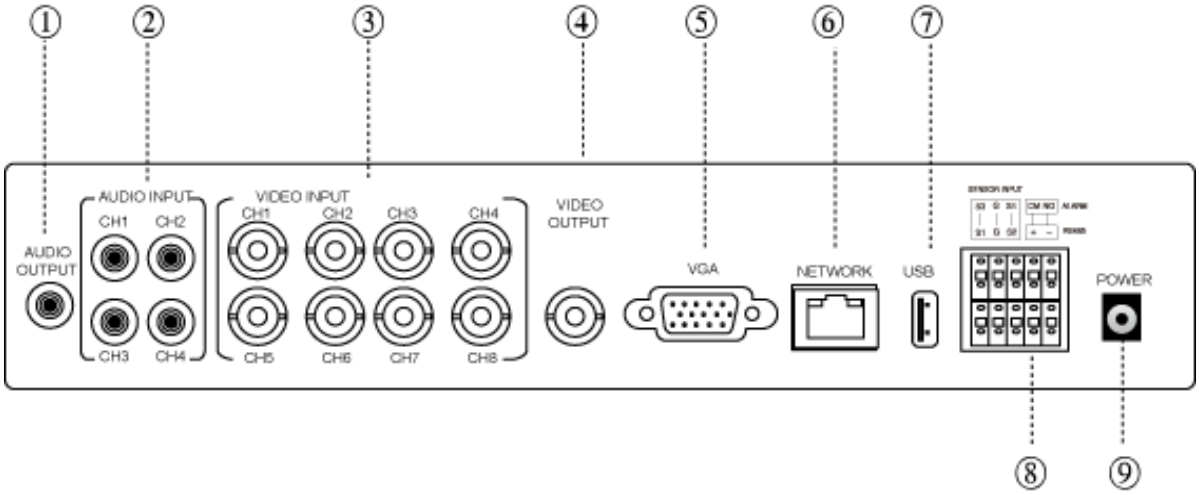
(16CH DVR)

[1] POWER LED
[2] RECORD LED
[3] USB Port
[4] MENU Button
[5] QUAD Button
[6] REC Button (Emergency / Schedule)

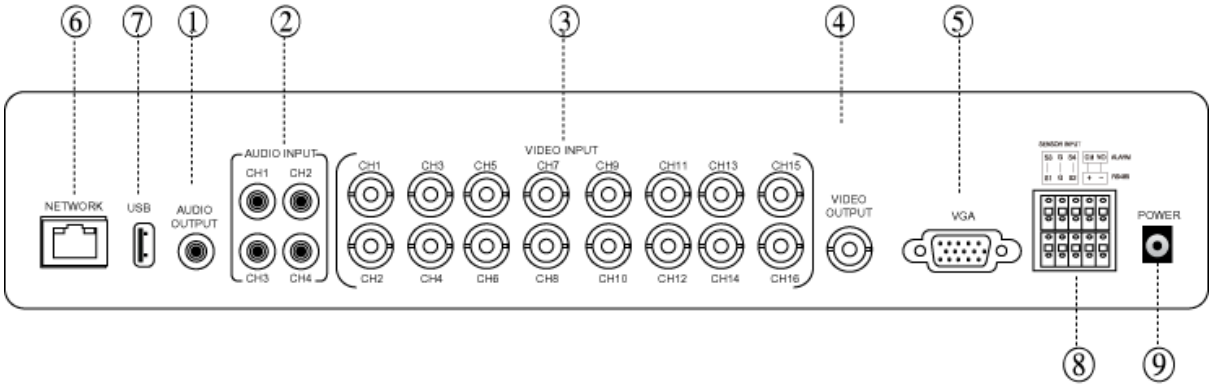
Rear panel



(4Ch DVR)



(8Ch DVR)



(16Ch DVR)

[1] AUDIO OUTPUT

[2] AUDIO INPUT

[3] VIDEO INPUT
[4] VIDEO OUTPUT (COMPOSITE)
[5] VGA OUTPUT
[6] ETHERNET PORT (RJ-45)
[7] USB PORT (USB Memory / Mouse)
[8] RS-485/ALARM/SENSOR
[9] POWER (ADAPTER)

Chapter 2. Basic Information

2-1. Menu Display

It's available to call setup menu with menu button on front panel, a mouse or the remote controller.

☞ Display Setup Menu with a remote controller.
Press Menu button on a remote.

☞ Display Setup Menu with a mouse
Right click to display pop-up menu. Select 'System' to go into Setup

2-2. Description of Icon

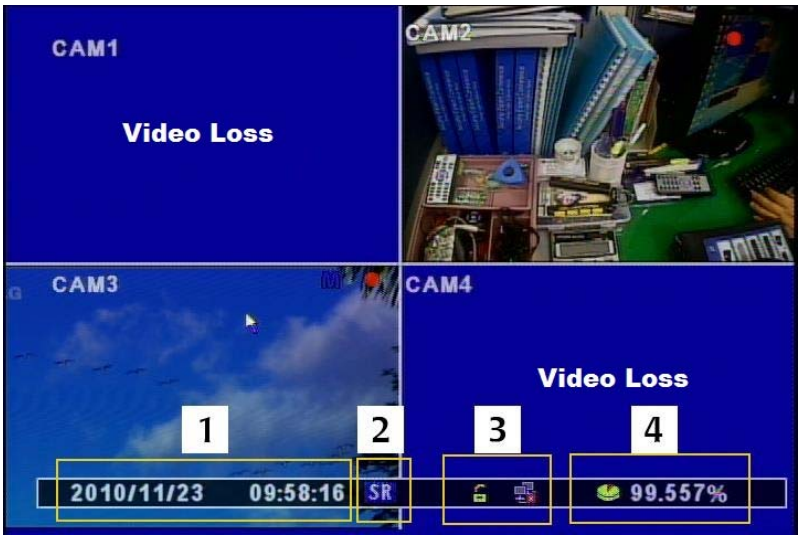
[1] The icons on the live screen indicate the status.

Recording

Motion Detection

Sensor

[2] Camera title will be shown as below.

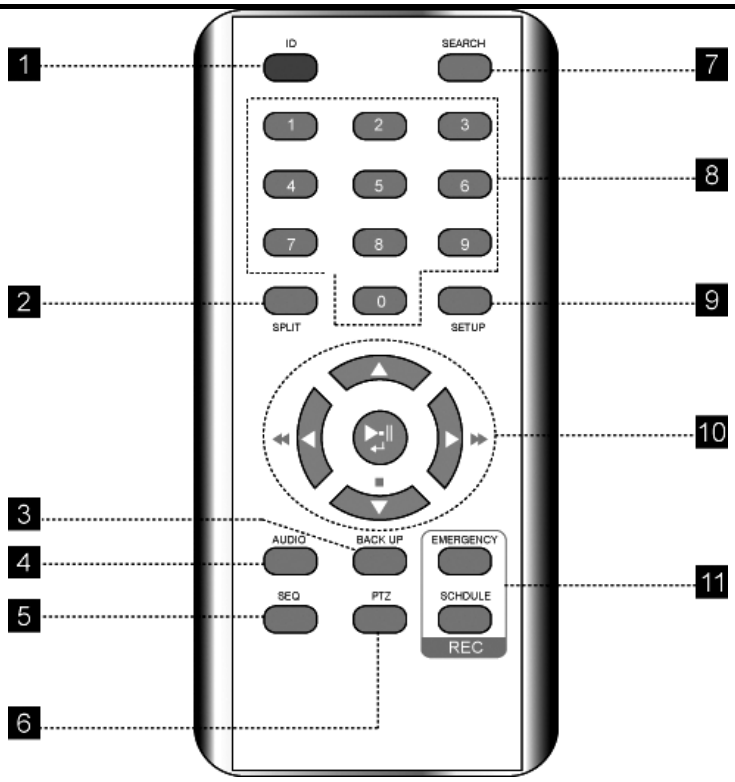


[3] Status Bar

1. Display date and time
2. ER means Emergency Recording and SR means Scheduled Recording.
3. Show network status and key lock status.
4. Show HDD status starting at 100% with no data written on the disk and display "Overwrite" when overwrite function is enabled.

2-3. Remote Controller

It is available to use all functions on the DVR with a remote. Controlling several DVRs with one remote is also available.



[1] ID : Select to configure a remote controller ID in case of using one remote to control multiple DVRs.

[2] SPLIT : Select to display various split modes. Keep pressing the same button will toggle between different split modes.

[3] BACK UP : Select to start archiving stored data to external media.

[4] AUDIO : Select an audio channel.

[5] SEQ : Select to display each camera in sequence.

[6] PTZ : Select to bring up PTZ control menu.

[7] SEARCH : Select to playback recorded data.

[8] NUMBER BUTTON : To select single channel or to input the number in setup menu.

[9] SET UP : Select to display setup menu.

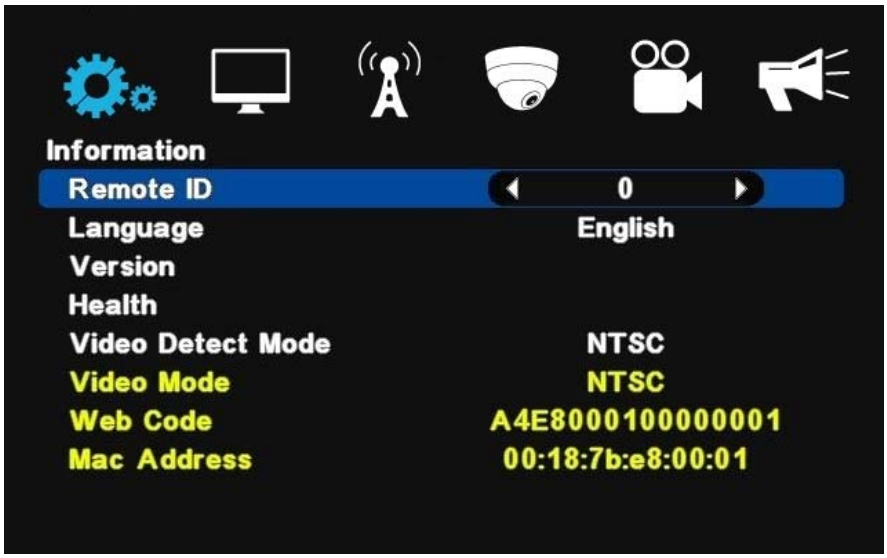
[10] DIRECTION KEY / CONFIRM BUTTON / PLAYBACK CONTROL – To move up/down/left/right on the OSD menu, playback control

[11] Record Button – toggle between Emergency Recording and Schedule Recording

- EMERGENCY : Emergency Recording Button
- SCHEDULE : Schedule Recording Button

2-4. How to set remote controller ID

In order to use remote controller, the ID must be the same on both DVR and remote controller. By assigning DVR ID differently, the user can control multiple DVRs with one remote controller.



[1] Check current system ID and set desired ID. (Default ID is "0")

Menu > System > Information > Remonte ID (Range : 0 ~ 99)

* System ID must be configured on DVR system menu. It cannot be changed through remote controller or remote client.

[2] How to use remote controller

ID must be unified between remote controller and system. Otherwise remote controller won't work.

Remote controller ID menu displays as above image when you press ID button of remote controller.

- DVR ID : It displays current ID of the system.
- "0" : Input the same ID number of DVR and press "Confirm"

2-5. How to display menu

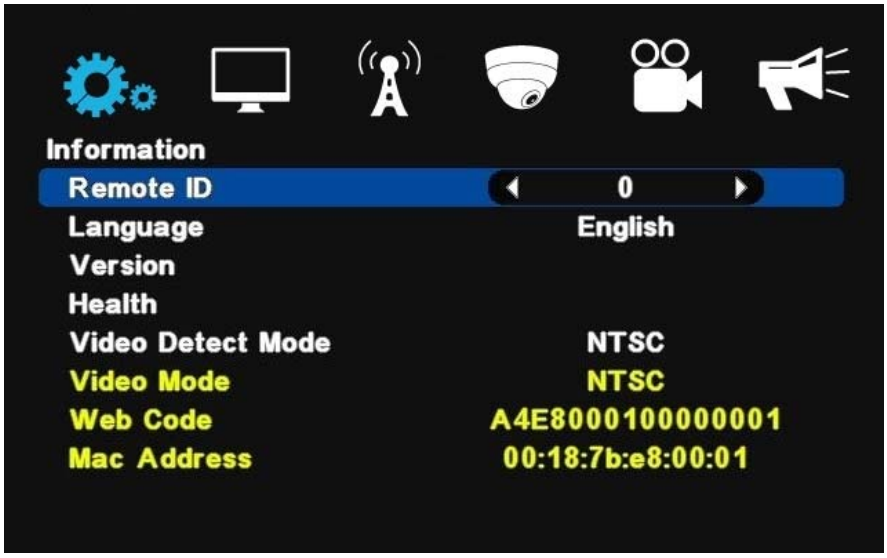
It is available to display menu with front panel buttons, remote and mouse.

[1] Front panel button : Push "MENU" button on the front panel.
[2] Mouse : Right-click
[3] Remote : Push "MENU" button

System	Go to main setup menu
Search	Go to search menu
Backup	Go to backup menu
Audio Out	Go to audio output menu
Emergency	Start emergency recording
Schedule	Start schedule recording
PTZ Control	Go to PTZ Control menu
Sequence	Start sequence
I/O	Switch output to Alarm or internal buzzer
Split Mode	Change display split mode

Chapter 3. System Configuration

3-1. Information



[1] Remote ID : Assign the ID of remote controller so that user can control multiple DVRs with one controller. (ID range : 0 ~ 99)

[2] Language : Select a language.

[3] Version : Display Software, Hardware and Network version information

[4] Health : Indicates storage status.

- Hard Disk 1~2 : Display the temperature of hard disk
- Front USB : Display the temperature of external storage on front USB port.
- Rear USB : Display the temperature of external storage on rear USB port.

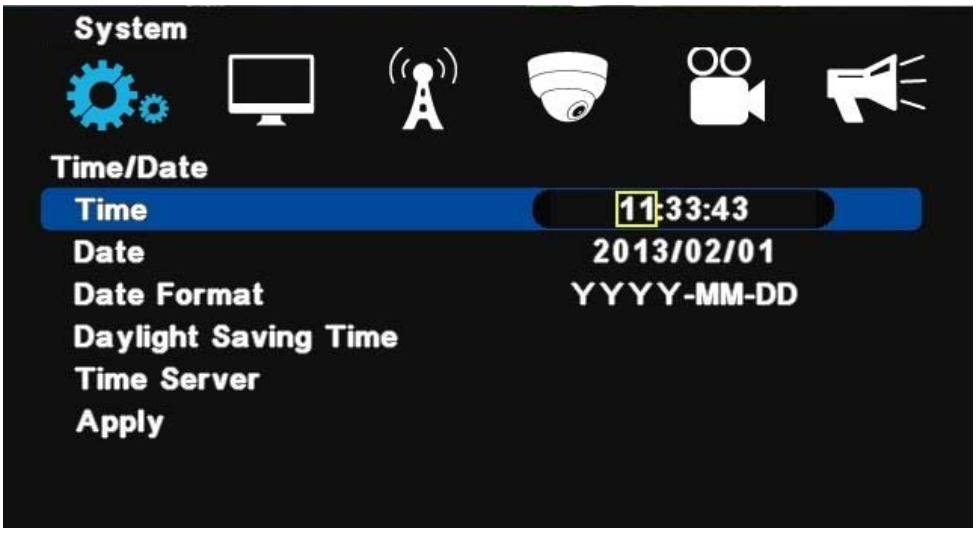
[5] Video Detect Mode : Select a video signal format. (NTSC / PAL)

[6] Video Mode : Display video signal format

[7] WEB Code **:** DDNS ID for DDNS connection.

[8] MAC Address

3-2. Time/Date

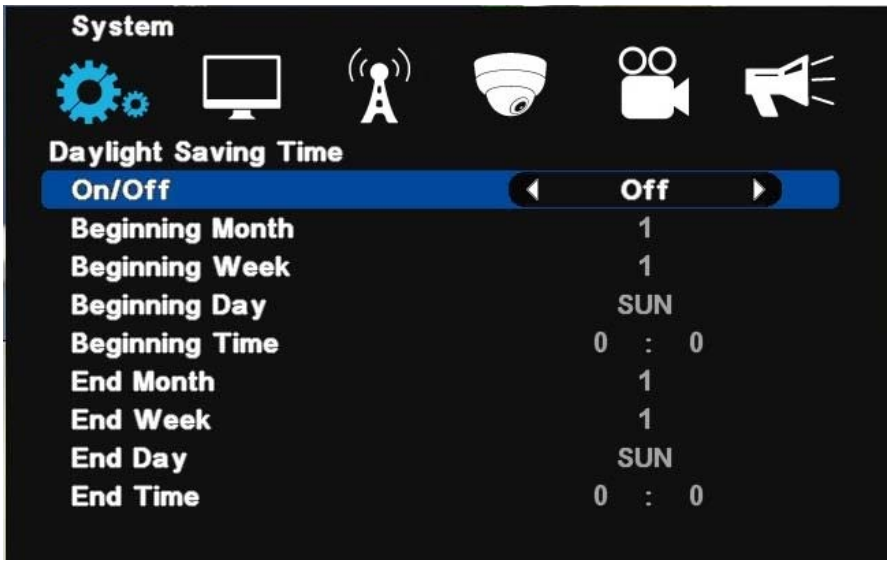


[1] Time : Set time

[2] Date : Set date

[3] Date format : Select a Time/Date display format.

[4] Daylight Saving Time : Set "ON" to apply daylight saving time.



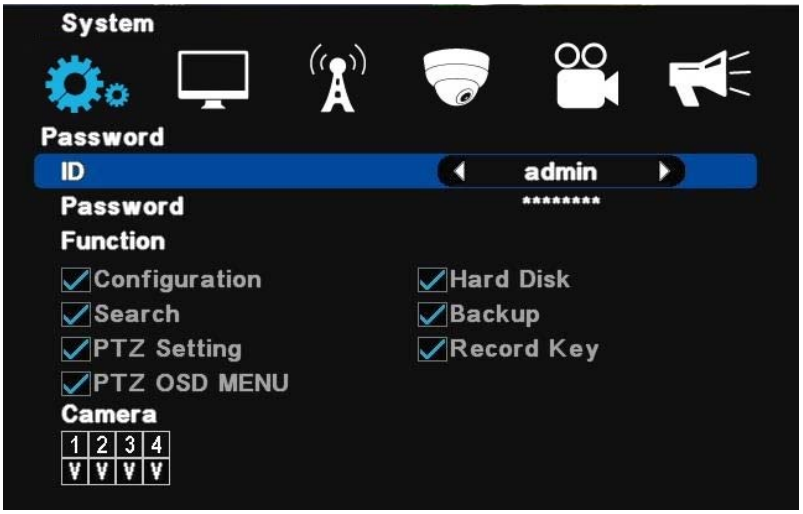
Enter Month/Week/Day to begin and also enter Month/Week/Day to end.

[5] Time Server : Set time automatically through internet.

• Time server : Input the URL of server (Default : us.pool.ntp.org)
• Synchronize Period : Select the period to syncronize between DVR and time server
  • Power On : Try to sync once power on.
  • 12Hour : Try to sync every 12 hours.
  • 24Hour : Try to sync every 24 hours.
  • Time Zone : Select Standard time

[6] Apply : Save and apply time / date setting.

3-3. Password



[1] ID : Available to register max 8 account ("Admin" and "User1~7)
  • admin : Administrator ID
  • User1~7 : User ID

[Note] Default password of all ID is "11111111"

[2] Assign an authority per selected ID
  • Configuration : Permission to set configuration

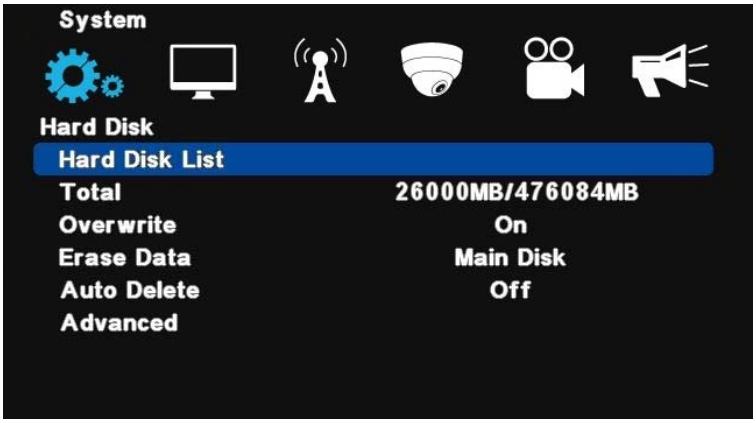
- Hard Disk : Permission to set Hard Disk
- Search : Permission to search
- Backup : Permission to back up
- PTZ Setting : Permission to control PTZ
- PTZ OSD Menu : Permission to access PTZ OSD menu
- Record Key : Permission to use Emergency Recording Key
- Camera : Permission to see the selected channel

[3] Detailed setting on each channel

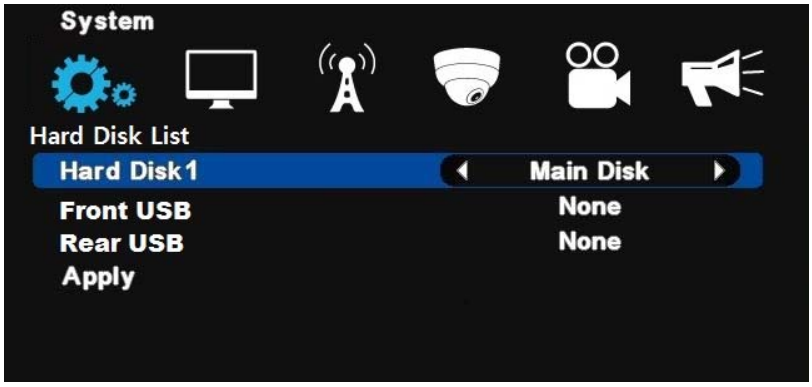
- V – Show both video and OSD
- NC - Show video but hide OSD
- C - Hide video but show OSD
- B - Hide both video and OSD

3-4. Hard Disk

As it is related to recording, if any setting is wrong, system error or abnormal recording could happen.



[1] Hard Disk List : It provides the information for hard disk, external hard disk and formatting option.



- Hard Disk1 : Display the hard disk capacity internally mounted
- Front USB : Display the capacity of front USB device
- Rear USB : Display the capacity of rear USB device
- Erase Data : Select a disk and format(delete) it

[2] Total : Display total capacity and used capacity of Hard Disk

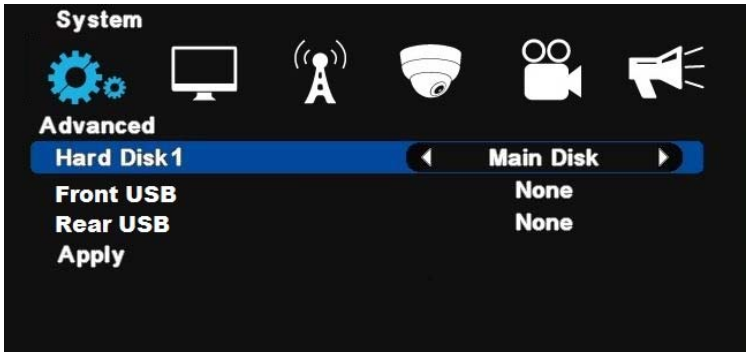
[3] Over write : Record continuously by overwriting the hard disk

[4] Erase Data : Format hard disks by type

- Main Disk : Format all the mounted disks named "Main disk"
- Mirror Disk : Format all the mounted disks named "Mirror Disk'

[5] Auto Delete : Keep the recorded data for the selected period and automatically delete the previous data.

[6] Advanced : Select whether a Hard Disk is used as Main disk or Mirror disk.



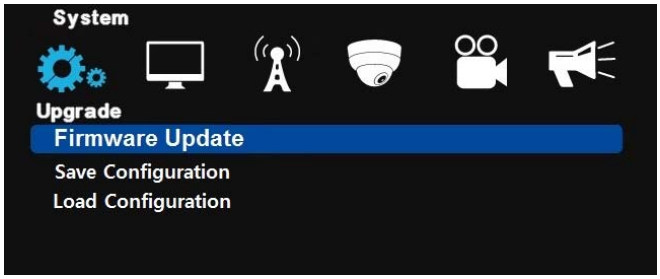
- Hard Disk1 : Internal Hard Disk Drive
- Front USB : Front USB device
- Rear USB : Rear USB device
- Apply : Save the setting

[Note] After setting, select "Apply" to save. Then, the system will reboot.

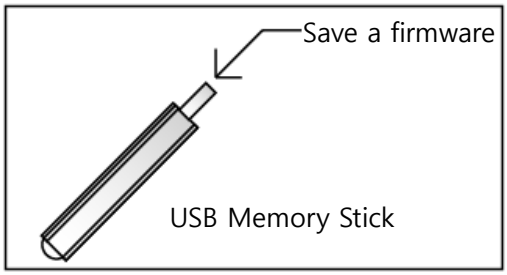
3-5. Default Setup

[1] Default Setup : Except major configuration (Network, Password), parameters are initialized.
[2] Factory Setup : All parameters are initialized.

3-6. Upgrade



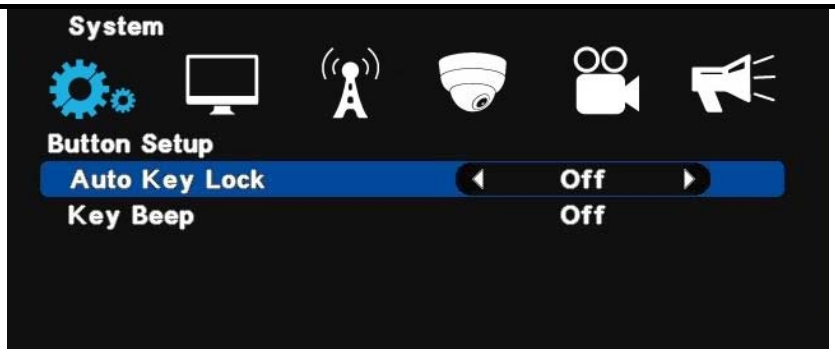
[1] Firmware Update : In order to update system firmware with USB memory stick, the firmware file must be saved in the USB's root folder and then insert to DVR to start the update from the menu.



[Note]
Do not turn off power or remove USB stick while the upgrade is in progress.

[2] Save Configuration : Save a configuration file of DVR.
[3] Load Configuration : Load a configuration file to DVR.

3-7. Button Setup

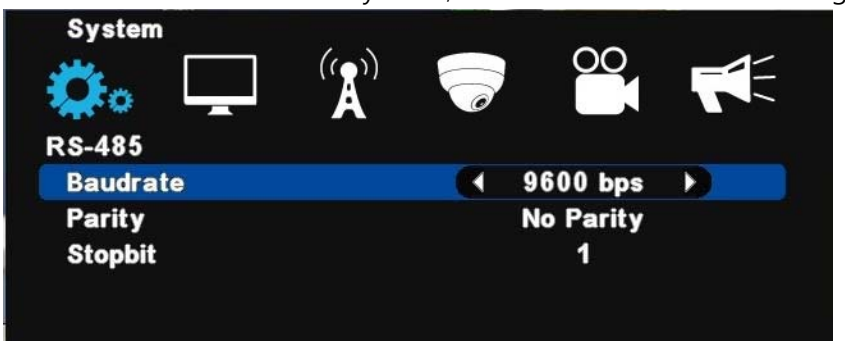


• Auto key lock : When there is no key input during selected period of time, system will lock keys automatically. In order to unlock, the user need to input the password. (10 sec., 30 sec., 1 min., OFF)

• Key Beep : When you set this function 'ON', a beep will sound as you press a button.

3-8. Serial Port Setup (RS-485)

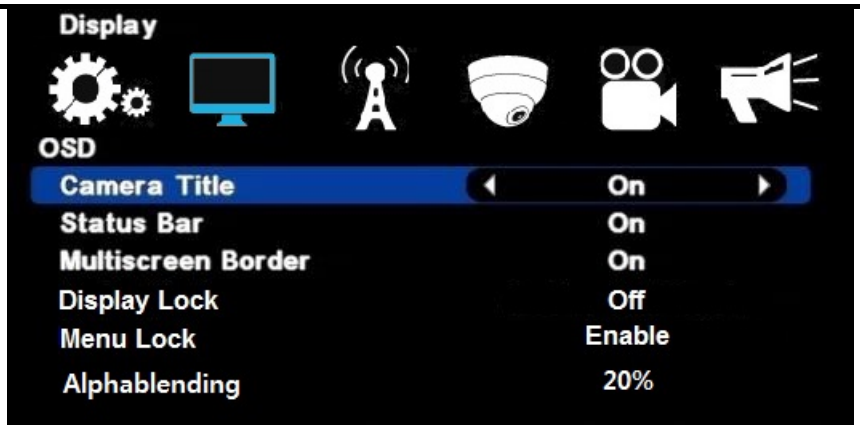
In order to use the PTZ camera or control keyboard, user need to set RS-485 setting properly.



Baudrate /Parity /Stopbit : Refer to the PTZ camera manual for proper setting.

Chapter 4. Display

4-1. OSD (On Screen Display)



[1] Camera Title : ON / OFF

[2] Status Bar : ON / OFF.

[3] Multiscreen Border : ON / OFF.

[4] Display Lock : Select a display lock option

- Off : Display live image after reboot.
- On : Does not display live image after reboot until user put in login information.

[5] Menu Lock : Select a log in option.

- Enable : Menu is locked after reboot.
- Disable : Menu is NOT locked after reboot.

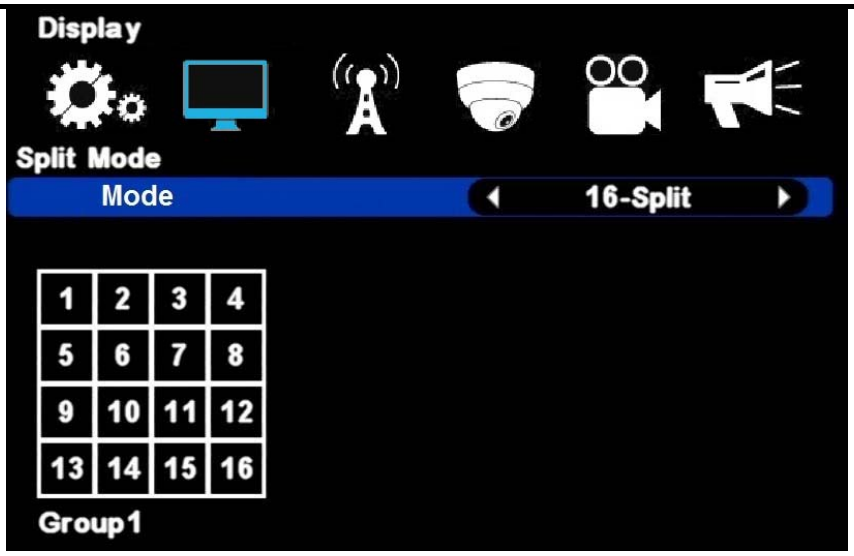
[6] Alpha blending : Select the transparency level of menu background.

4-2. Split Mode

DVR provides various split modes when you press the "QUAD" button. You can choose the split mode and change the channel. Multi-split mode is subject to each model.

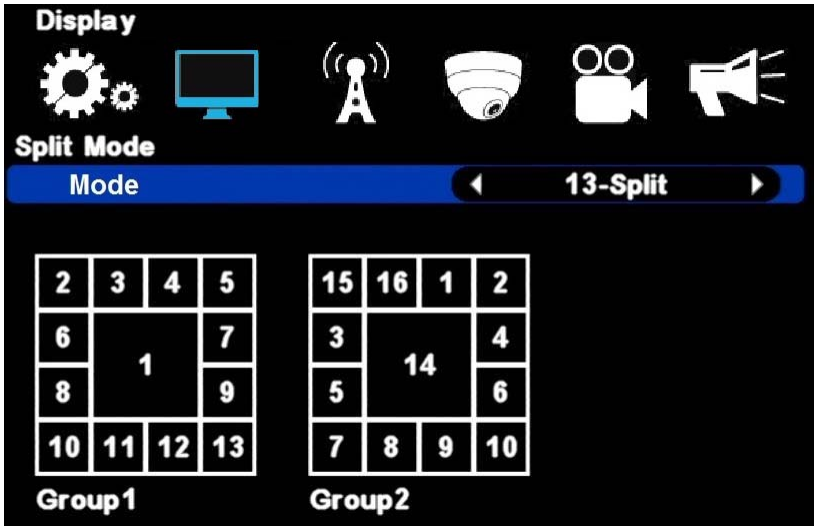
Select the split mode

16-Split mode (For 16Ch Model only)



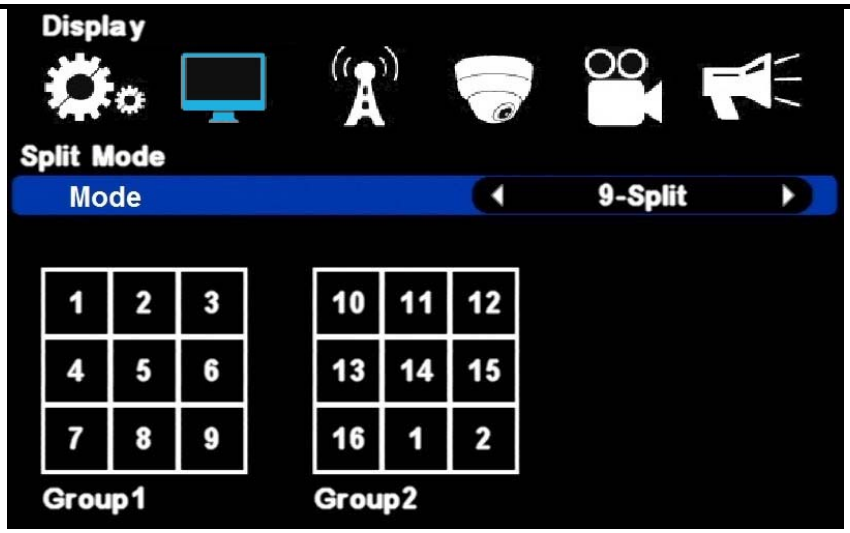
- Default 16 split mode.
- Select 16 split mode then press "Split" button to setup 16 split mode.

13 Split mode (For 16Ch Model only)



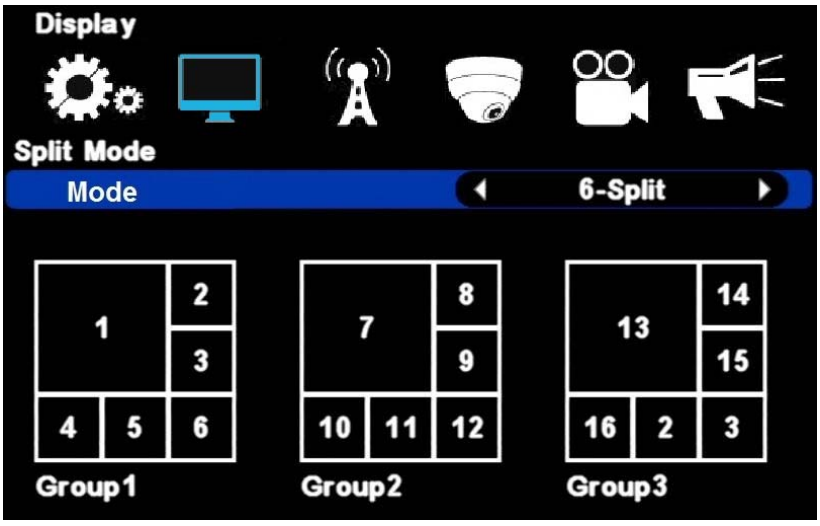
- 13 split mode provides 2 different group of display.
- Select 13 split mode and press "QUAD" button to display 13 split mode on the screen. Press "Right" direction button to select the group 1 or group2.

9 Split mode (For 8/16Ch Model)



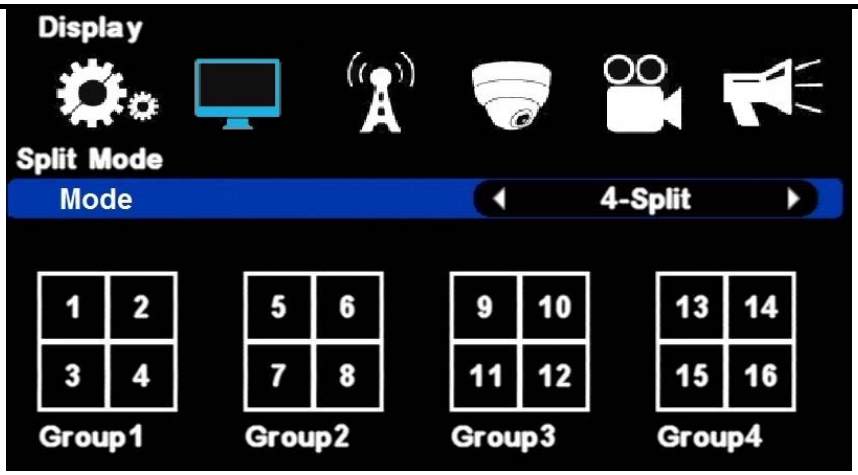
- 9 split mode provides 2 different group of display.
- Select 9 split mode and press "Split" button to display 9 split mode on the screen. Press "Right" direction button to select the group 1 or group2.

6 Split mode (For 8/16Ch Model)



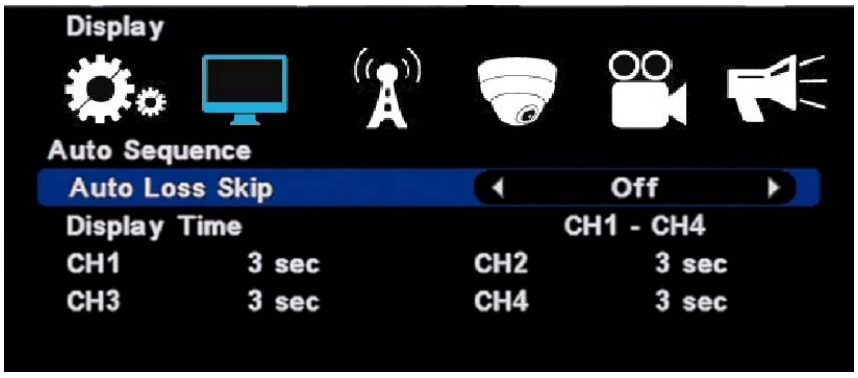
- 6 split mode provides 3 different group of display.
- Select 4 split mode and press "QUAD" button to display 4 split mode on the screen. Press "Right" direction button to select the group 1, group2 or group.

4 Split mode (For 4/8/16Ch Model)



- 4 split mode provides 4 different group of display.
- Select 4 split mode and press "QUAD" button to display 4 split mode on the screen. Press "Right" direction button to select the group 1, group2, group 3 or group 4.

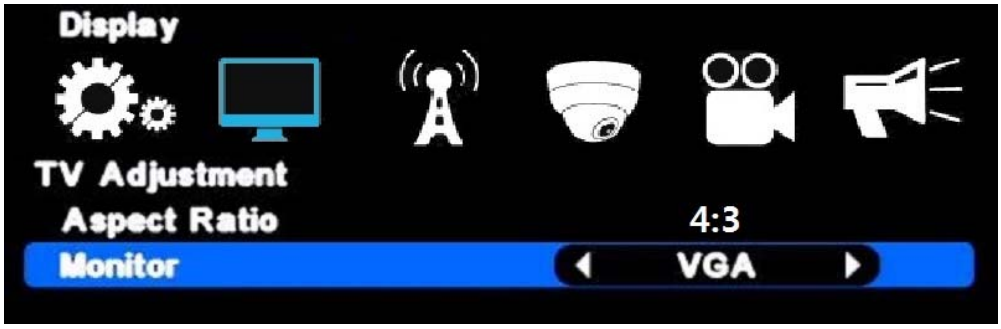
4-3. Auto sequence



- Auto Loss Skip : If there is no video input at certain channel, it will skip the channel.
  - ➢ This function does not work in multi-channel sequence.
- Display time : Select display duration while sequencing (1 sec. ~30 sec.)

[Note] Sequence doesn't work on event pop-up.

4-4. TV Adjustment



[1] Aspect Ratio : Display the aspect ratio of selected output.

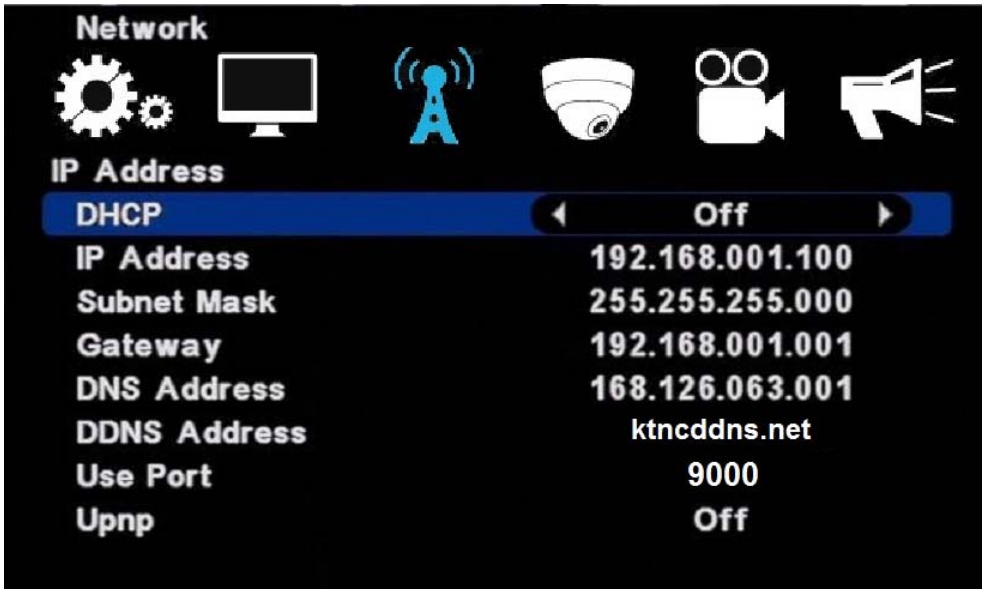
[2] Monitor : Change the OSD menu location.

- Composite : When using analog low-resolution monitor.
- VGA : When using high resolution monitor for VGA output

Chapter 5. Network Setup

5-1. IP Address

This setup allows user to connect DVR to the network so that it can be viewed at remote location. The user must know whether their internet is dynamic IP (DHCP) or fixed (static) IP. Please check with your Service Provider (ISP) before setup.



[1] DHCP : "ON" for dynamic IP user.
"OFF" for static IP user.

[2] IP Address : Input the IP address.
[Example]
- IP address : 61.250.152.050
- Subnet Mask : 255.255.255.000
- Gateway : 61.250.152.001
- DNS Address : 164.124.101.002

[3] DDNS Address : Do not change the DDNS server IP (ktncddns.net)

[4] Use Port : Default port is 9000.

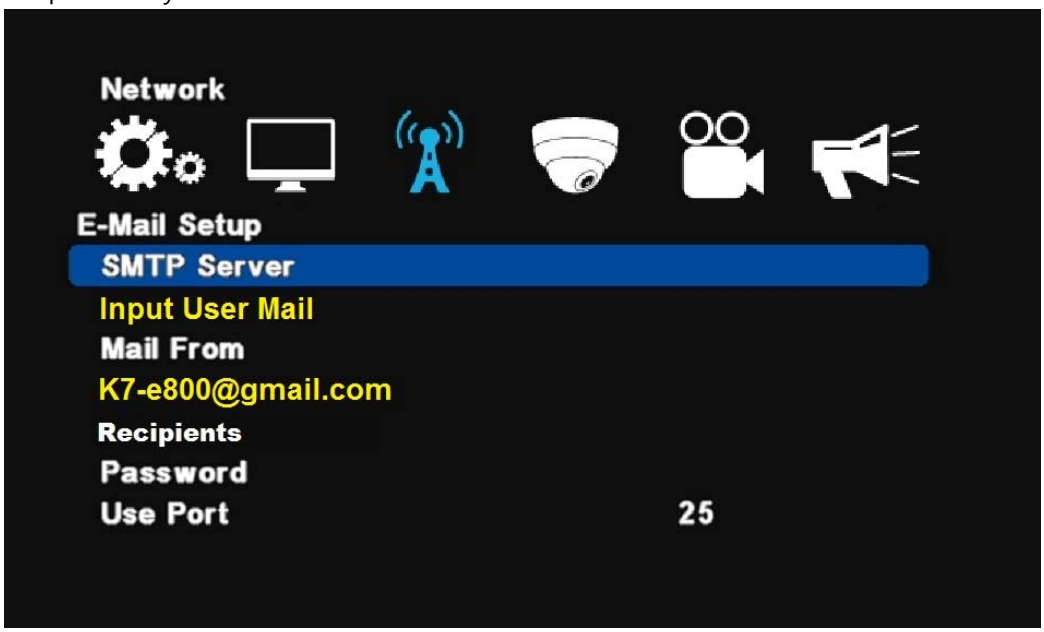
[5] Upnp : If a router supports Upnp, it automatically set port forwarding.

[NOTE] In case of using the router, the user should make port forwarding.
The port forwarding procedure is described in the router manual.

5-2. Notification

E-mail Setup

It's a basic setup to send email, so if it is not correct, email cannot be delivered. So be careful to make Setup correctly.



[1] SMTP Server : Enter email server address to use as SMTP server. If you don't know the server address, contact a person who manages SMTP server you use.

[2] Mail From : Enter the email address which you use. (It is for preventing a mail blocked as spam.) Default shows the DVR model name.

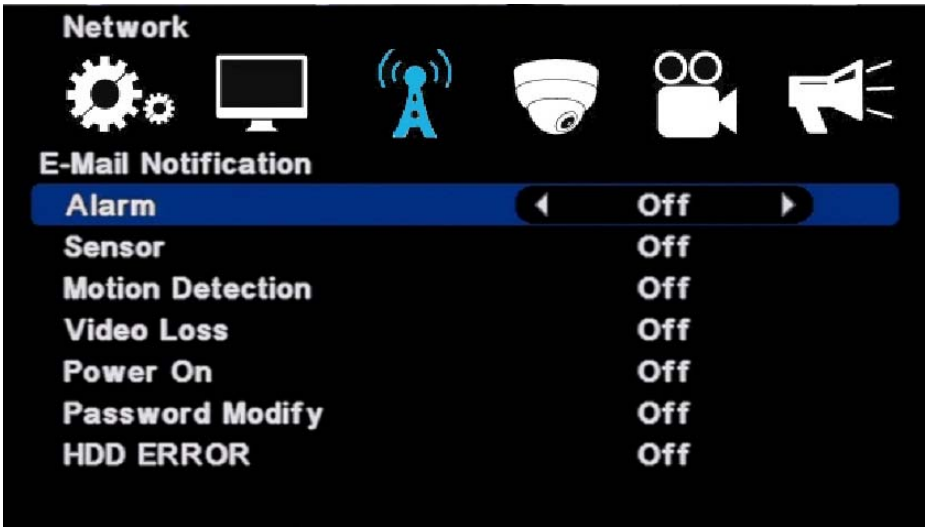
[3] Recipients : Enter recipient's email address (available up to 3 account)

[4] Password : Select if ID/Password input is necessary when sending a mail.

[5] Use Port : Most of Mail Servers use port 25. Check port number if the feature doesn't work.

5-3. E-mail Notification

Select which type of notifications you are going to use.



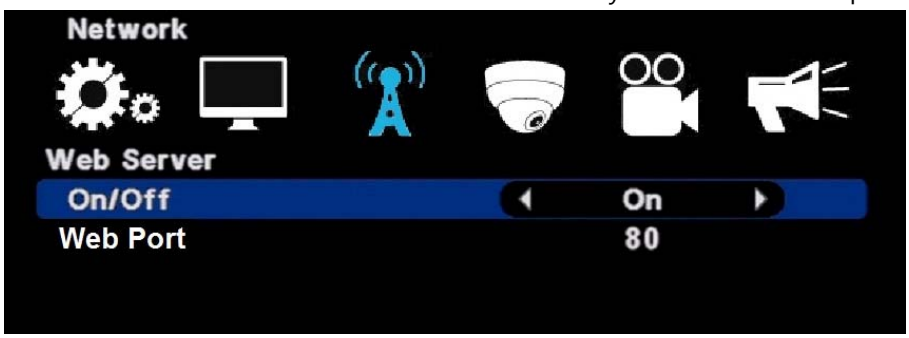
Notification Type : You can select the type of triggering event.

- Alarm : Email is sent with still image when an alarm occurs.
- Sensor : Email is sent with still image when triggering a sensor
- Motion Detection : Email is sent with still image when detecting a motion.
- Video Loss : Email is sent with blank channel screenshot when video input is lost.

- Power On : Email is sent when DVR reboots.
- Password Modify : Email is sent when the system password is modified.
- HDD Error : Email is sent when HDD error is detected.

5-4. Web Server

Built-in web server allows user to connect to the DVR remotely on the Internet Explorer.



[1] ON/OFF : Select 'ON' to use remote connection through the web.

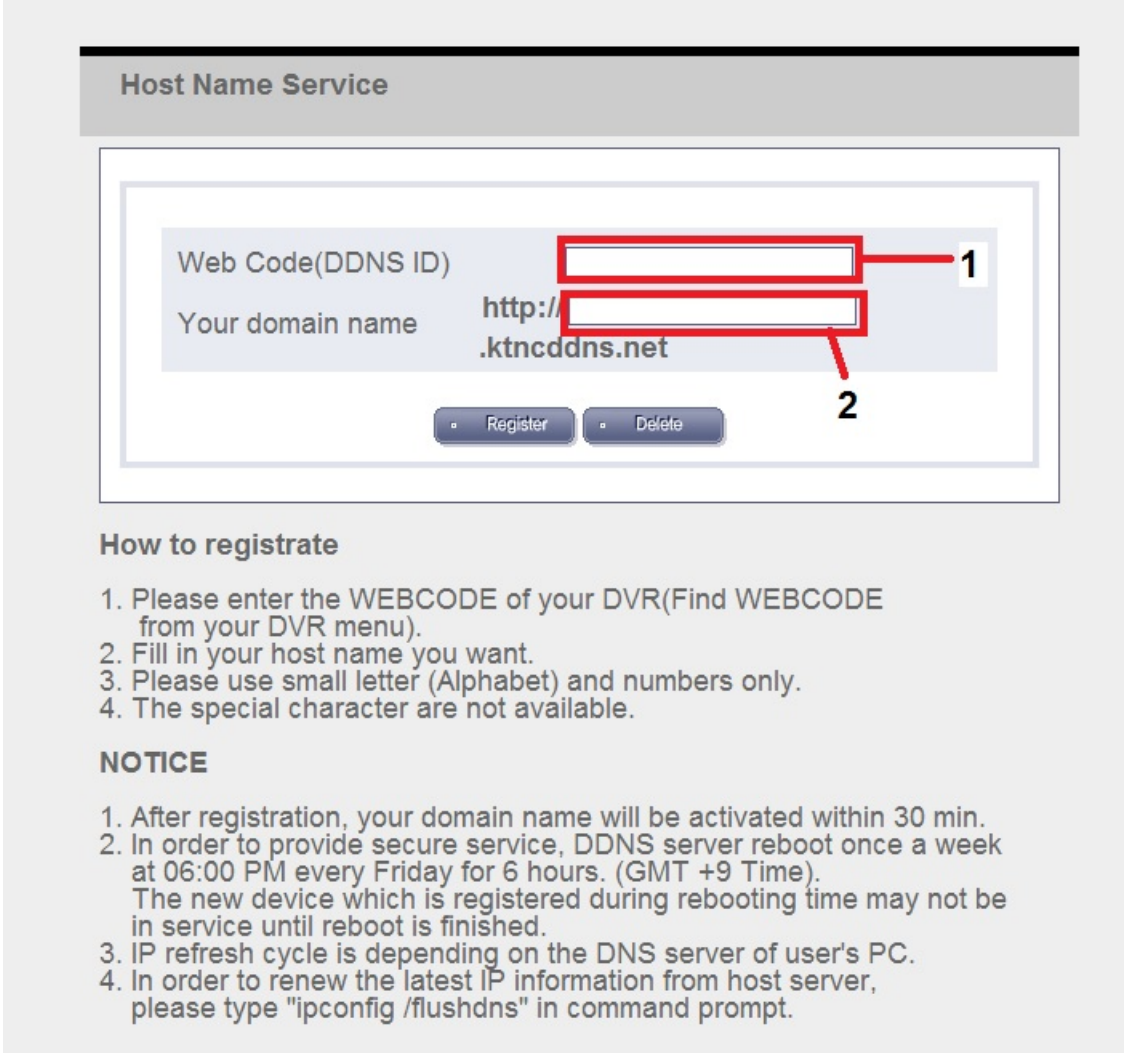
[2] Web Port : Web port for remote connection needs to be specified and forwarded from the router.

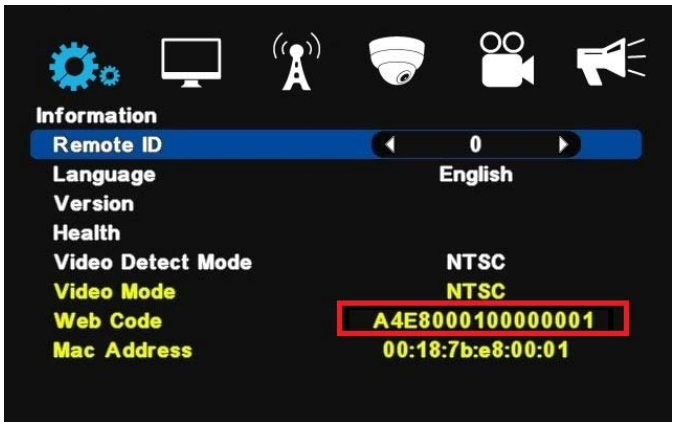
5-5. Free DDNS

Free DDNS is used for remote connection through public DDNS service such as Dyndns or no-ip. They may or may not be free.

KT&C provides its own dedicated DDNS service at NO COST.
When using KT&C's DDNS service, you can leave the Free DDNS setting "OFF".
Below is the instruction on registering the DVR to KT&C's free DDNS server.

[1] Go to http://www.ktncddns.net and register your DVR using your DVR's Web Code.





- The Web Code can be found under 'System – Information' menu. Make sure to check the digits of the webcode to be 16.

[2] Create your own domain name and click "Register".

[3] After registering is successful, log onto your DVR remotely by using registered URL.

Ex) http://myfirstconnection.ktncddns.com

* Please allow up to 30 minutes until your domain name is being registered by the server.

5-6. Dual Codec Setup

It is available to transmit data through extra network transmission codec. Split Resolution is for multi channel mode and Popup Resolution is for single channel full screen.

- On/Off : Select "On" to use dual codec setup
- Channel : Select channel to set (Available to set per channel)
- Quality : Select quality of image.
- Frame Rate : Select frame rate per channel
- Total Frames : Displays total frames used by 2nd codec

Chapter 6. Camera

6-1. Camera Setting

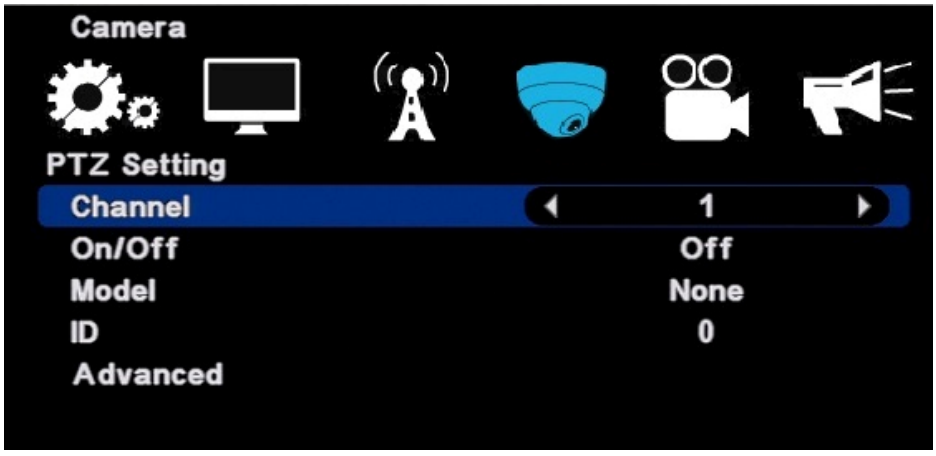
- Channel : Channel selection
- Covert : camera covert setup
  · On : It doesn't display the image
  · Off : Display the image
- Brightness : Brightness control
- Contrast : Contrast control
- Saturation : Black/White control
- Hue : Magenta and Cyan control

6-2. Camera Title

Input a camera title up to 8 characters using virtual keyboard provided.

Different language option can be selected.

6-3. PTZ Setting



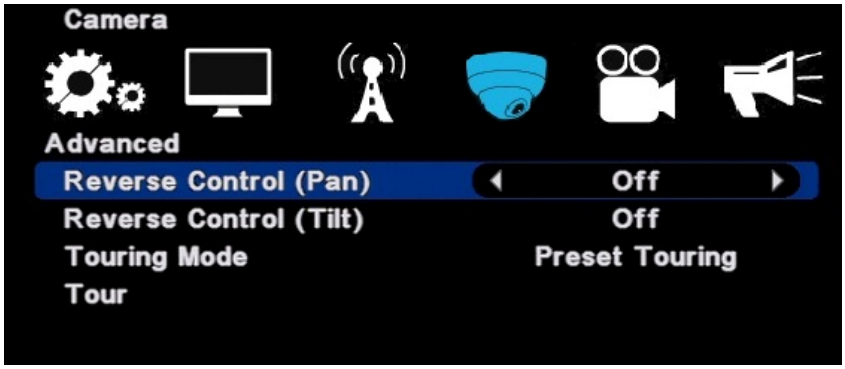
[1] Channel : Select a channel

[2] ON/OFF : Enable or disable to use PTZ.

[3] MODEL : Select the PTZ protocol or model

[4] ID : Select the PTZ ID. (For more detail, refer to the manual of PTZ device.)

Advanced



[1] Reverse Control (Pan) : Set the Pan works reverse direction.

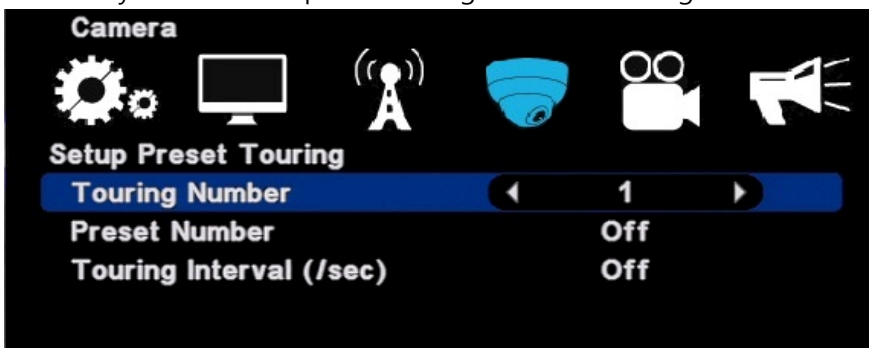
[2] Reverse Control (Tilt) : Set the Tilt works reverse direction.

[3] Touring Mode

- Preset Touring : Use touring by DVR setting.
- Camera Touring : Use touring by camera setting. (PTZ camera built-in touring function is available only.)

[4] Setup Preset Touring

It is operable when you select the 'preset touring' from the touring mode' menu.



The touring number is selectable 1~16.

[1] Touring number : Select the number.

[2] Preset number : Select the preset number saved before.

[3] Touring interval : Select the touring dwell time in seconds.

[NOTE] PTZ protocol selection

Protocol is PTZ moving driver. The protocol is registered as per the camera model name or protocol name. Please check whether your PTZ is usable for this DVR. The touring is supported when the camera itself supports the touring function.

- **KT&C KPT-SPDN300NUCH support Pelco-D protocol with default ID 1 and baudrate of 2400.**

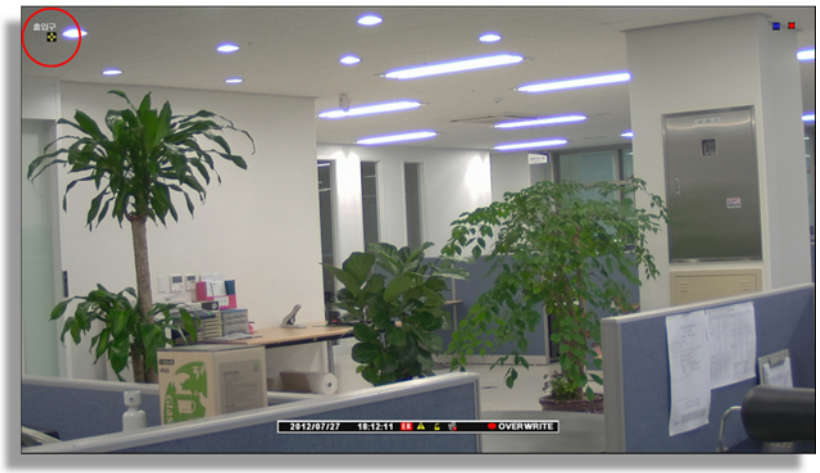
6-4. How to use PTZ

[How to call the PTZ menu]

• Mouse menu : Click the right button of mouse and select the 'PTZ'.

• Remote controller menu : Click the "PTZ" from remote controller.

(1) Select PTZ Button on the remote controller

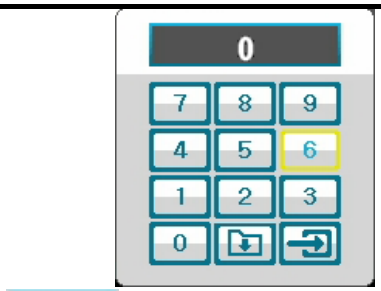


• When you select PTZ button, "+" shape icon appears. Then move to the channel you want by the direction key.

(2) If you moved to PTZ channel, then after pushing "SET UP" button, select the menu to operate.

• Pan Tilt : Control the direction by the direction key in remote controller.

• Preset : Input the preset number to set or call.



(Preset Save) (Preset moving)

• Tour : It activates saved tour number.

• MENU : It calls the PTZ OSD menu.

• Channel : Change channel at split screen. Available to move with direction button after selecting a channel. (Only work on split screen)

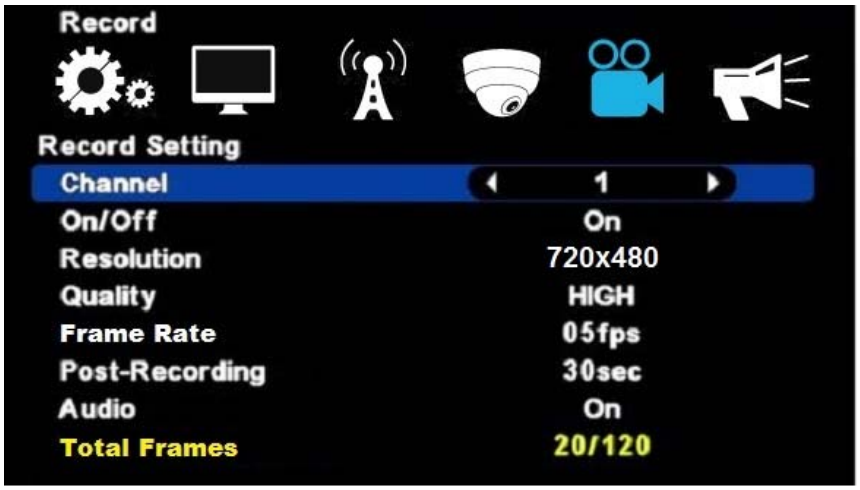
• Auto Focus : Adjust the focus automatically.

• Exit : Escaping the PTZ mode.

Chapter 7. Record

7-1. Record Setting

Set resolution, quality, recording frame rate and audio. Each setting affects the size of the image and picture quality.



[1] Channel : Set channel

[2] On/Off : Set 'On' or 'Off' for recording

[3] Resolution : Set resolutioin

[4] Quality : Set picture quality of recorded video

[5] Frame Rate : Set record frame rate

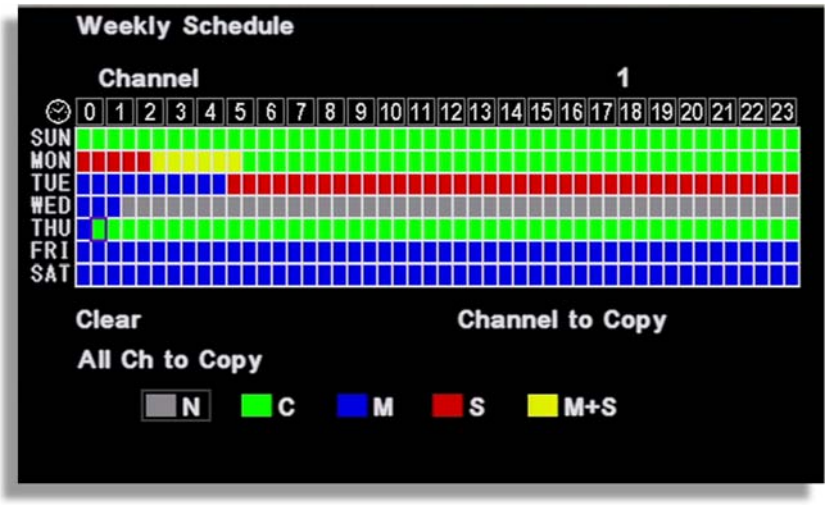
[6] Post-Recording : Set recording duration time after an event is triggered.

[7] Audio : Set On or Off for audio recording

[8] Total Frames : It shows current occupied frames out of total allowed recording frames.

7-2. Weekly Record

Set schedule record per day of the week, time and channel. And setting per hour is also available.



N (Grey) : No recording

C (Green) : Continuous recording

M (Blue) : Motion recording

S (Red) : Sensor triggered recording

M+S (Yellow) : Recording by motion detection or sensor triggering

[How to setup]

• Select a channel

• Each block represents 30 minutes of each day.

• You can either click on a block to toggle between different recording modes starting from selected time to the end of the day or manually select the mode by clicking on modes below and paste the selected mode by drag and drop on the black sheet.

- Recording mode toggle : N(Grey) → C(Green) → M(Blue) → S(Red) → M+S(Yellow)

• Clear : Delete any schedule change and disable recording on selected channel

• Channel to Copy : Copy the current channel's recording schedule to the another selected channel. Other channel option will appear on the bottom of the page.

• All Ch to Copy : Copy the current channel's recording schedule to all other channels.

Chapter 8. Event Setup

8-1. Sensor

It is for sensor setup.

[1] Sensor Input : Select the sensor input channel.

[2] On/Off : Select the sensor usage.

[3] Input Type : Select the sensor input type.

- N/Open (NORMAL OPEN) : The contact is normally open but close when the signal is generated.
- N/Close (NORMAL CLOSE) : The contact is normally closed but open when the signal is generated.

[4] Related camera : Select the camera(s) to be related with sensor.

8-2. Motion Detection

It is the motion detection setup menu.

[1] Channel : Select the motion detection channel.

[2] On/Off : Select the motion detection usage.

[3] Sensitivity : Select the sensitivity of motion detection. Please apply it after the actual testing.

[4] Detection Area : Select the motion detection area. (1~5)

The cursor moving by the direction key and if press "enter", this block is designated for motion detection.

- MD selected area : Pink color
- MD non-selected area : Transparent
- If the movement is detected, the color of that area turns green.

[Using mouse]

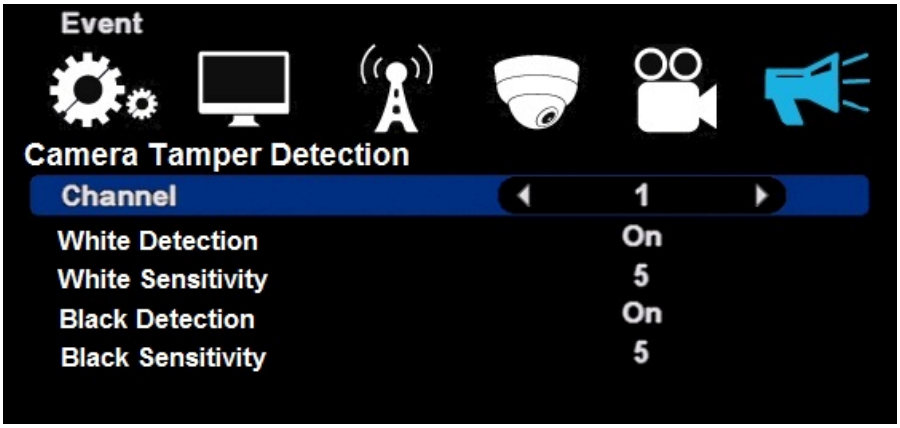
To select area, locate the mouse pointer on start position and drag to the end point.

8-3. Camera Tamper Detection

If there is the drastic change in brightness detected from the channel, the DVR recognizes it as an event.

If the camera detects excessive light by opening the door/window or if the lens/front window of the camera is getting covered or painted, the DVR detects it as an event.

(This function operates by using the dual monitor and output is made through VGA.)



[1] Channel : Select the channel to use.

[2] White Detection : Detecting sudden brightening.

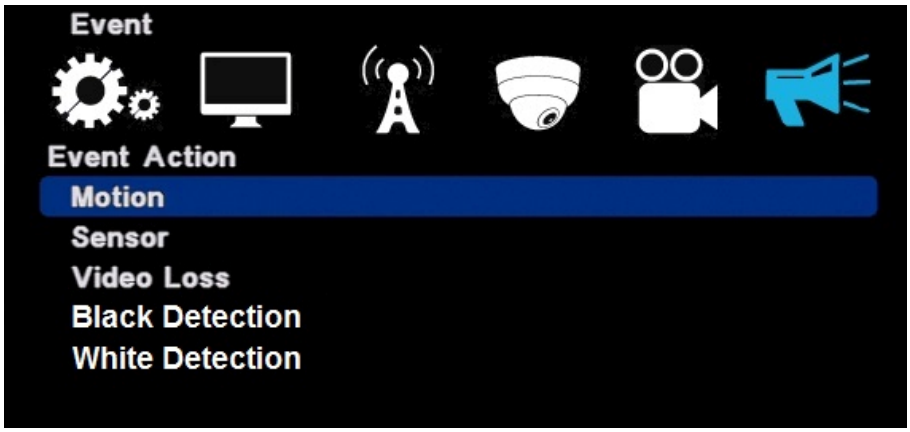
[3] White Sensitivity : Detecting the sensitivity of brightening.

[4] Black Detection : Detecting sudden darkness

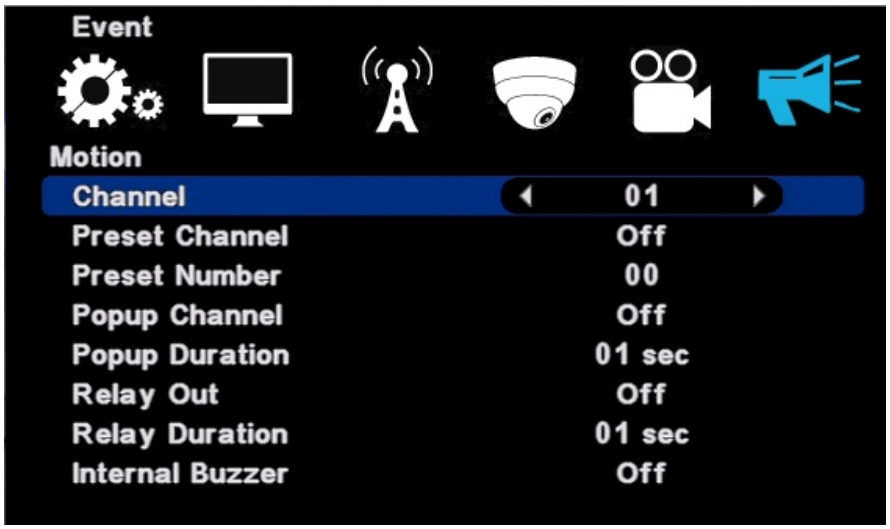
[5] Black Sensitivity : Detecting the sensitivity of darkness.

8-4. EVENT ACTION

Event triggered action can be selected.

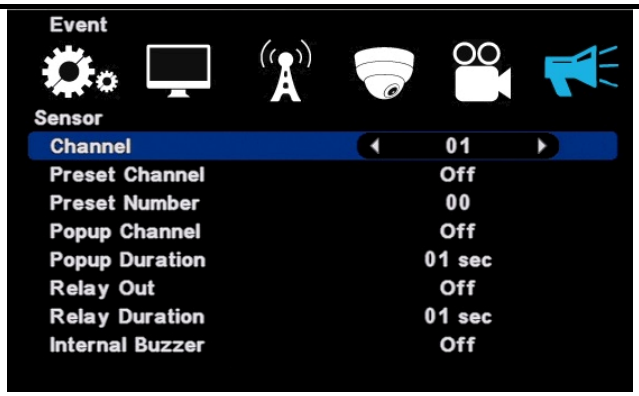


[1] Motion : It is the setup for PTZ, pop-up, relay out, buzzer in motion detection.



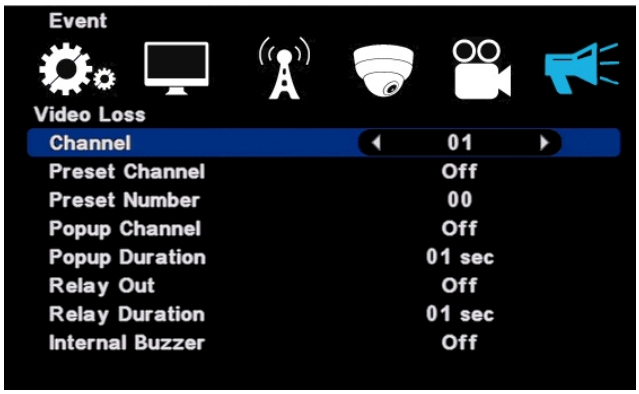
- Channel : Select the channel to apply.
- Preset channel : Select the preset camera being applied for the event.
- Preset number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay out : Select the alarm out
- Relay duration : Relay out duration.
- Internal buzzer : Internal buzzer usage.

[2] Sensor : It is the setup for PTZ, pop-up, relay out, buzzer in sensor triggering.



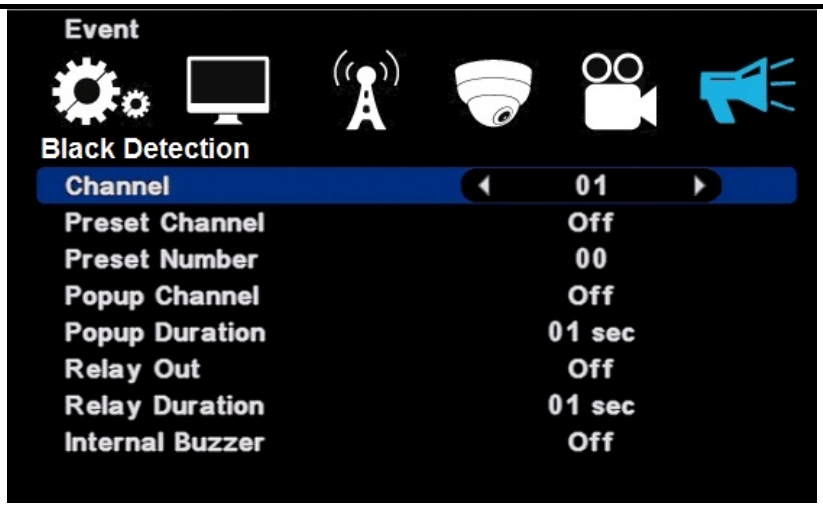
- Channel : Select the channel to apply.
- Preset channel : Select the preset camera being applied for the event.
- Preset number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay out : Select the alarm out
- Relay duration : Relay out duration.
- Internal buzzer : Internal buzzer usage.

[3] Video loss : It is the setup for PTZ, pop-up, relay out, buzzer in video loss.



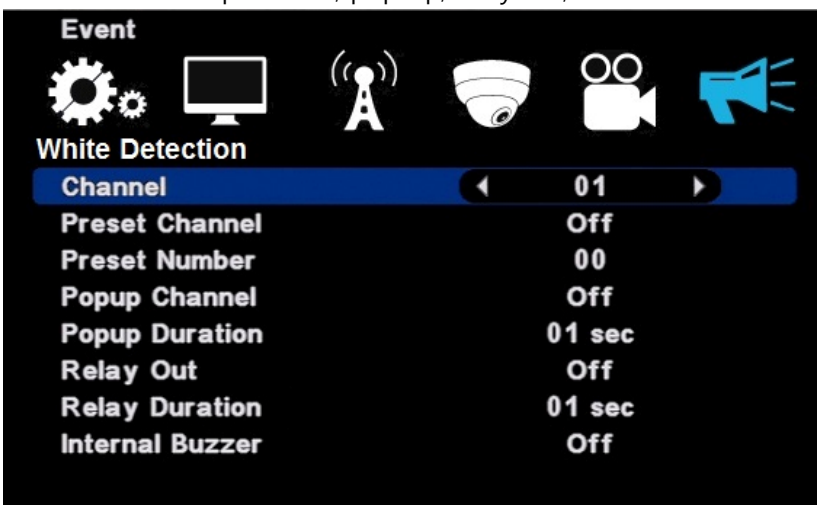
- Channel : Select the channel to apply.
- Preset channel : Select the preset camera being applied for the event.
- Preset number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay out : Select the alarm out
- Relay duration : Relay out duration.
- Internal buzzer : Internal buzzer usage.

[4] Black Detection : It is the setup for PTZ, pop-up, relay out, buzzer in Black Detection event.



- Channel : Select the channel to apply.
- Preset channel : Select the preset camera being applied for the event.
- Preset number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay out : Select the alarm out
- Relay duration : Relay out duration.
- Internal buzzer : Internal buzzer usage.

[5] White Detection : It is the setup for PTZ, pop-up, relay out, buzzer in white Detection event.



- Channel : Select the channel to apply.
- Preset Channel : Select the preset camera being applied for the event.
- Preset Number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay Out : Select the alarm out

- Relay Duration : Relay out duration.
- Internal Buzzer : Internal buzzer usage.

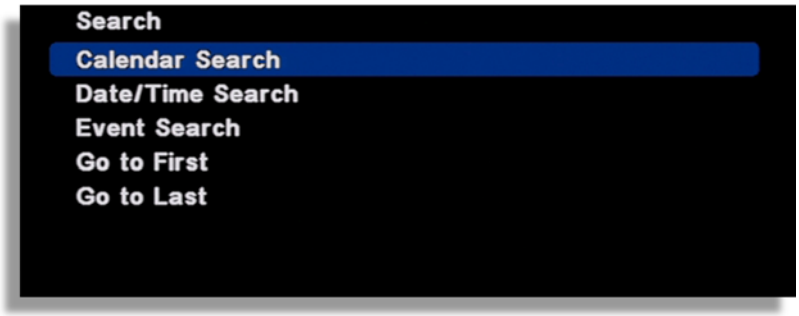
Chapter 9. Search

9-1. Search menu

It supports the various ways of search mode such as Calendar, Date/Time, Event, etc.

[1] How to call menu : Select the "SEARCH" from remote controller and right button of mouse.

[2] Search mode selection



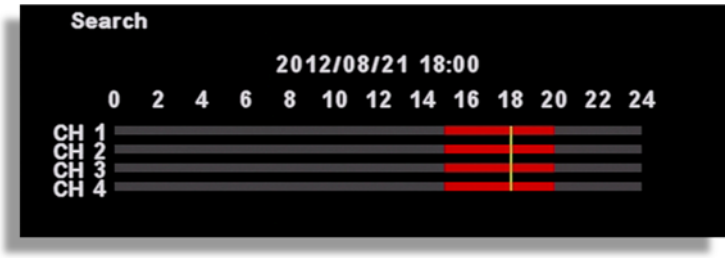
· Calendar search : It allows to search by calendar.
· Date /Time search : It allows to search for specific Date/Time.
· Event search : It allows to search by events.
· Go to first : It allows to search the first recorded data on HDD.
· Go to last : It allows to search the last recorded data on HDD.

9-2. Calendar search

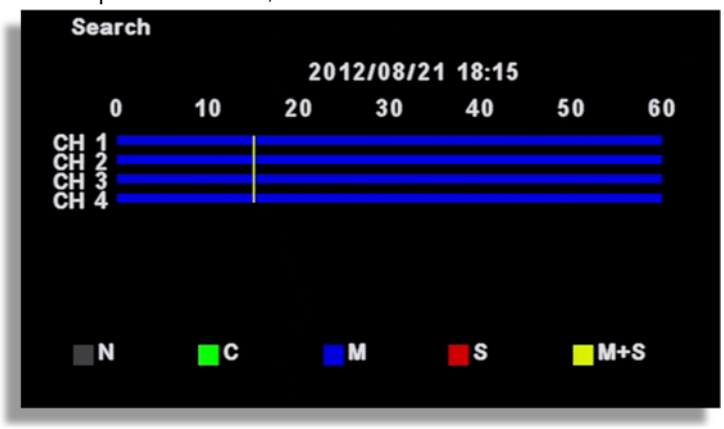
It searches by calendar.

[1] If there is recorded data on specific date, it shows red color on the date. Using the direction key, you can change YEAR/MONTH/DATE.

[2] If there is recorded data on specific hour, it shows red color bar on the hour.

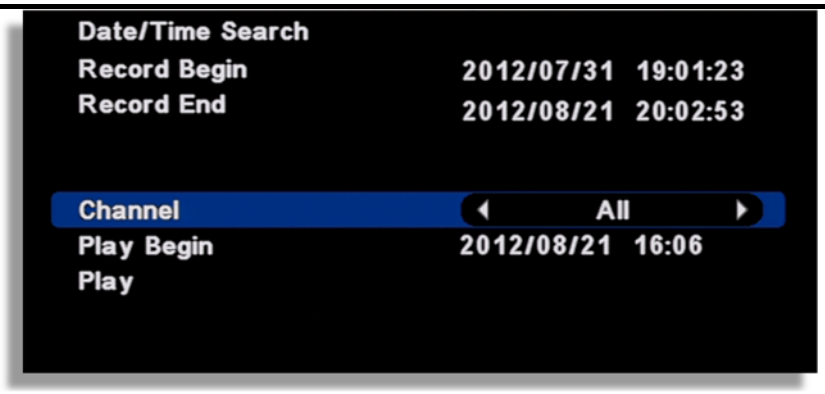


[3] If there is recorded data on specific minute, it shows blue color bar on the minute.



9-3. Date/Time search

If you know the specific date/time to search, input the date/time to search.



[1] Record Begin : It shows the first recorded data.

[2] Record End : It shows the last recorded data.

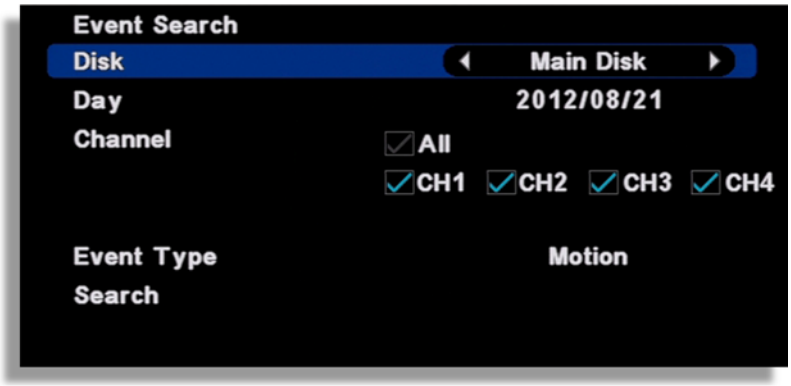
[3] Channel : Select the channel to search.

[4] Play Begin : Input the time to search.

[5] Play : When you click "Play", it will start playback.

9-4. Event search

It searches for event data.



[1] Disk : Select recorded data location.

[2] Day : Select date of the event.

[3] Channel : Select the channel to search.

[4] Event Type : Select type of event you want to search for.

[5] Play : When you click "Play", it will start playback.

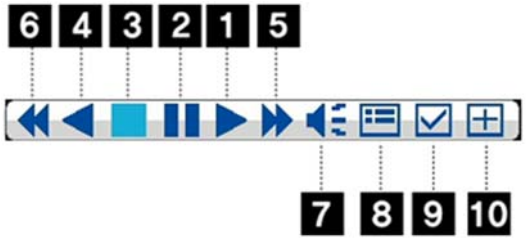
9-5. Go to first / Go to last

It searches the first or last recorded data.

9-6. Search Control

[Control by mouse]

Description of search button



[1] Real-time playback

[2] Pause

[3] Stop

[4] Reverse playback

[5] Playback speed control

[6] Reverse playback speed control

[7] Audio during playback

[8] Calendar search during playback

[9] Mark In-Mark Out : If you click it during playback, it recognizes as a backup start time and if you click it once again, it recognizes as a backup end time. After this, it moves to the backup menu automatically.

[10] Screen magnifying function in the full screen. (Use Emergency recording button on the remote controller.)

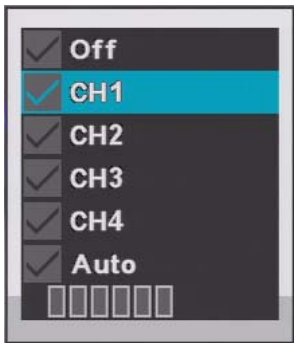
[Control by Remote control]

Use the direction from the remote control to control the speed

9-7. Audio

Audio can be played in both Live and Search.

.



[1] Menu recall : When you select the "Audio Out" during the live or playback, the audio menu will show up. The menu call is possible by both remote controller and mouse.

[2] Mode selection

- OFF : No audio use.
- CH1 : Audio out only from CH1
- CH2 : Audio out only from CH2
- CH3 : Audio out only from CH3
- CH4 : Audio out only from CH4
- Auto : Only selected channel audio out.
- Volume control : As the length of bar increases, the volume increases.

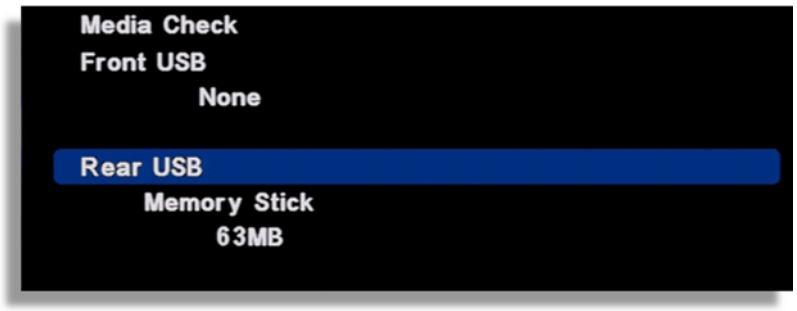
Chapter 10. Backup

10-1. Backup

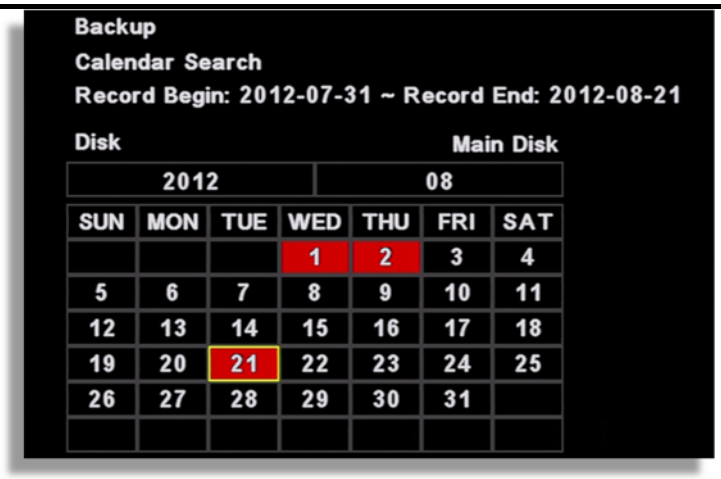
Selected data can be archived to the external devices (USB, E-SATA). Connect the USB memory stick to the DVR and select 'BACKUP' button from remote controller or select 'Backup' from main menu.

[1] Select the backup device. When connected device is recognized properly, it shows the capacity of the device. (Ex. 3854 MB)

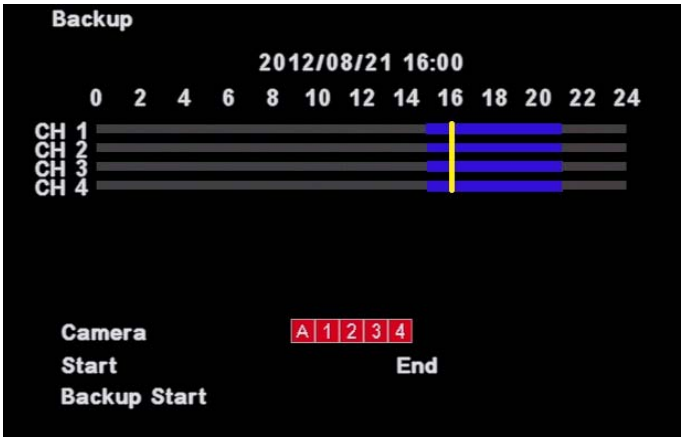
- 'No Backup Device' will appear on the screen when the backup device is not detected by the DVR.



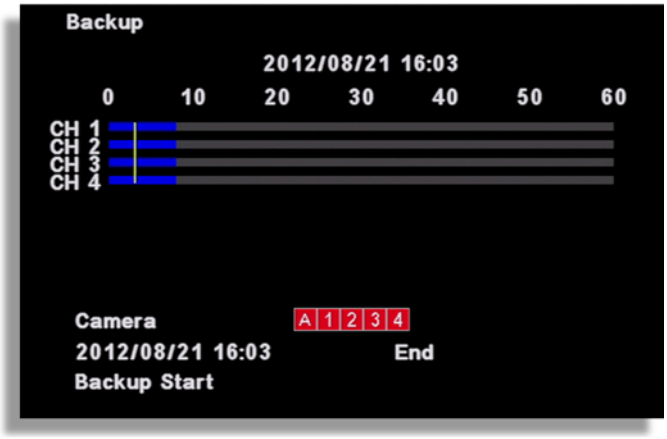
[2] Select the date from Calendar.



[3] Select the hour.



[4] Select the minute. Once you select "Start", the backup start time will be automatically input.

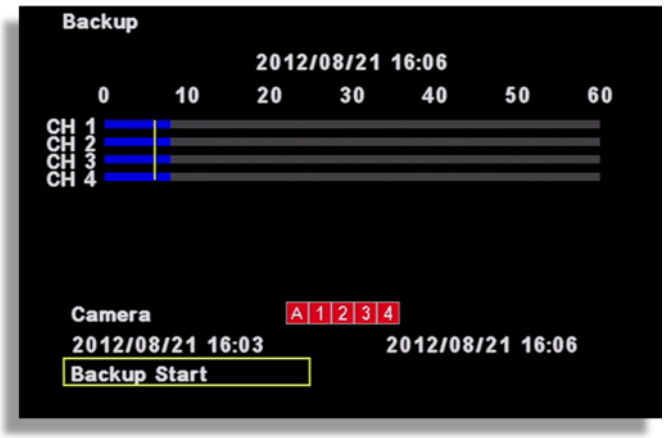


[5] Backup end time selection

• If the backup end time is the same hour, select the minute and click, "end", the backup end

time will be automatically input.

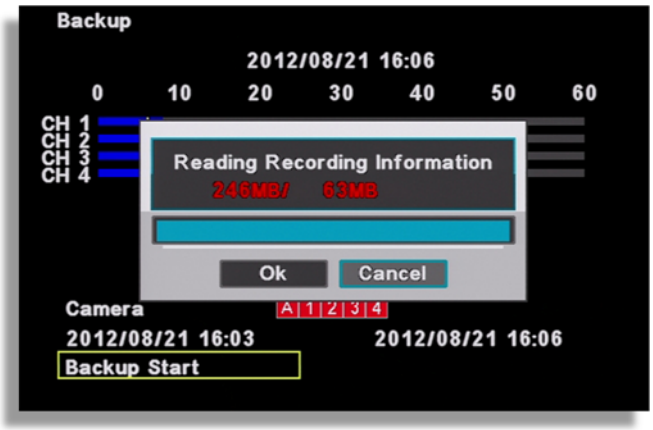
• If the backup end time is the different hour, go back to the previous menu by right click or "MENU" button. Then, select the hour/minutes and click "end" for automatic time input.



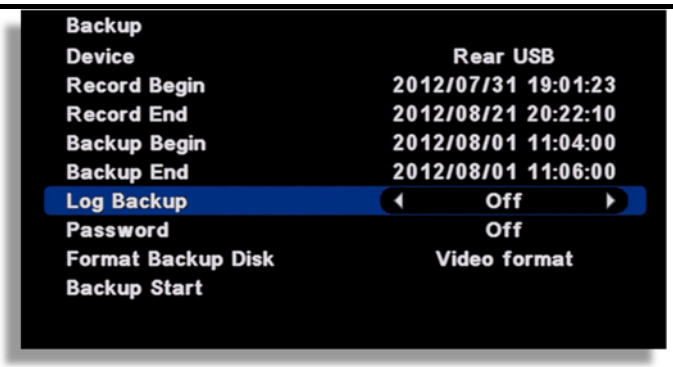
[6] Camera : Select channels to be archived. (Selected channel will be shown as red)

[7] Backup Start : When all setup is complete, click the 'Backup start' button.
It will show "the backup capacity / USB memory capacity" before proceed.

- When you select larger amount of data than available space of the USB memory stick, the DVR will give you backup fail message.



[8] Before backup, it shows the USB port used, backup time, and various backup options.



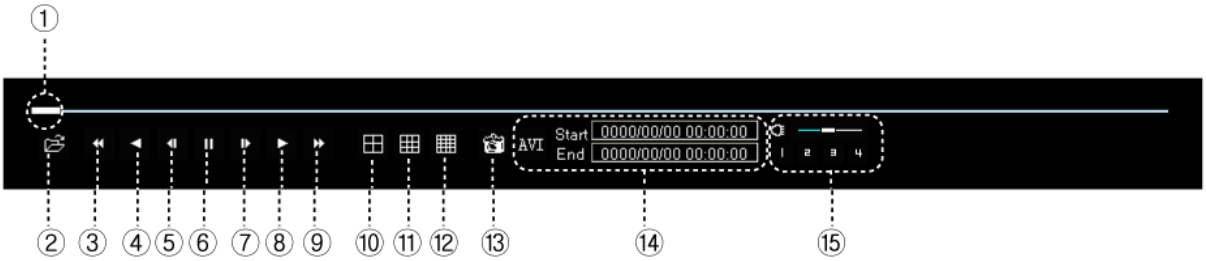
- Log Backup : The log file will be saved together.
- Password : Backup data can be protected by the password.
- Backup Format : Select type of backup file.
  - Executable format : Video data will be saved with its own built-in viewer.
  - Video Format : Only raw video data file will be saved without viewing software.

➢ Video Format can be played and viewed with 'MS Backup Viewer' included in software package.

[9] Backup Start : The backup will start.

[10] When the backup is complete, you will see the below icon as a file in USB stick. When you run it, the playback starts.

[11] How to use the viewer program (If you click the backup file, it runs automatically).



① Scroll bar : It shows the current location from the total playback time.

② Open : To open another backup file.

③ Fast reverse playback

④ Reverse playback

⑤ One step reverse playback

⑥ Pause

⑦ One step playback

⑧ Playback

⑨ Fast playback

⑩ 4 split screen

⑪ 9 split screen

⑫ 16 split screen

⑬ Current image capture

⑭ When you convert it to AVI . You can click the 'START' and 'END' time (circled space) during playback and if you click 'AVI', it converts current archive file to 'AVI' file format.

⑮ You can listen to the recorded audio of selected channel.

11. Mobile Viewing by iPhone

11-1 Install App

Go to Apple Store and download 'KVRmobile'. Then install the KVRmobile.

11-2 Execute the program

When the installation is complete, the following icon is created.

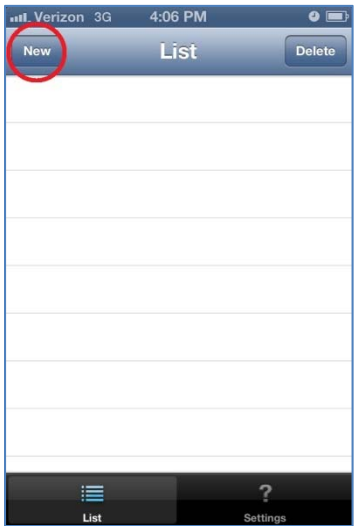
Select the icon to execute.

11-3 Register Remote Site information

Enter the network information to access the DVR with iPhone.

[1] Register

Execute the app in iPhone and click "New" to add a remote connection.



[2] Enter Name.

Any name can be used for 'Name' section.

[3] Select the type of device

[4] Enter the DVR ID and Password.

◎ DVR ID : Enter the ID registered in the DVR

◎ Password : Enter the password registered in the DVR

(Note : You can check the ID and password in the DVR Setup Menu)

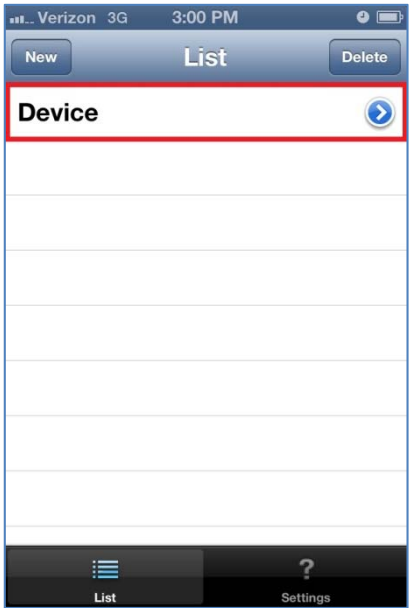
[5] Enter the IP address of the DVR

[6] DDNS – This function shouldn't be used and must be set to 'OFF' position at all time.

After setting all, press "ADD" to save.

11-4 Live Monitoring

[1] Click the registered “DVR Name”.



[2] Connect remotely

For a channel selection, click “CH SELECT” to select a number.

Relay can be controlled remotely.

Click "PTZ" to control Pan/Tilt/Zoom of PTZ camera.

Disables display of time, resolution, channel, etc. and displays the video only.

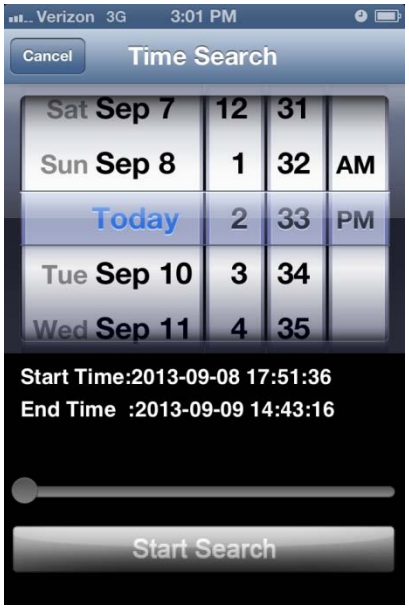
When selected, it transmits still images with certain intervals in case video streaming is interrupted due to the network load.

☞ See full screen single channel : If you rotate iPhone to one side, it's switched to full screen. (Touch any part of the full screen to call the menu)

11-5 Search

Select "search" the icon below.

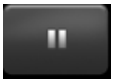
[1] Select Date/Time



After selecting a date, select "SEARCH".

[2] Search key operation

Play reverse

 Pause

Play

Switch to Live

11-6 Relay out

Relay can be controlled remotely.

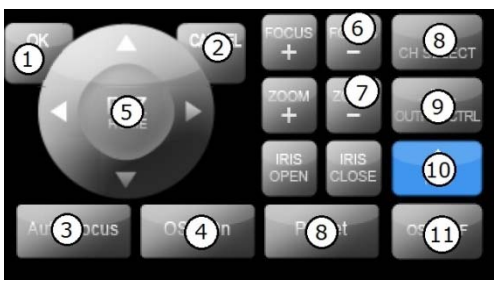
Time Selection : Set the duration of alarm output

Off : Alarm off

Infinity : Keep the alarm output continued.

11-7 PTZ control

PTZ control is available on iPhone.



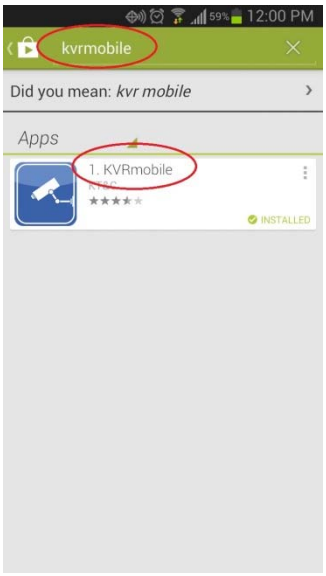
(1) Select
(2) Cancel
(3) Automatic camera focus
(4) Call the PTZ menu
(5) Direction button
(6) Camera focus control
(7) Camera zoom control
(8) Select the channel
(9) Relay out button (A user can set relay out)
(10) Select the PTZ menu
(11) OSD display On/Off button for live screen

12. Mobile Viewing by Android phone

12-1 Install the program

To install the program on the Android phone, run 'Play Store' app and download the 'KVRmobile' to install. When the installation is complete, you will see the 'KVRmobile' icon on the main screen.

(1)



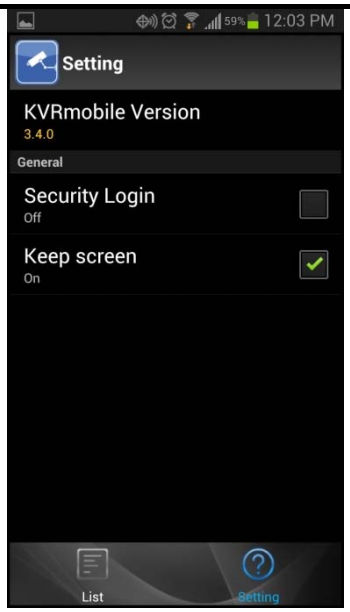
(2)

(3)

12-2 Execute App

Select "KVRmobile" to execute.

(Select the icon)

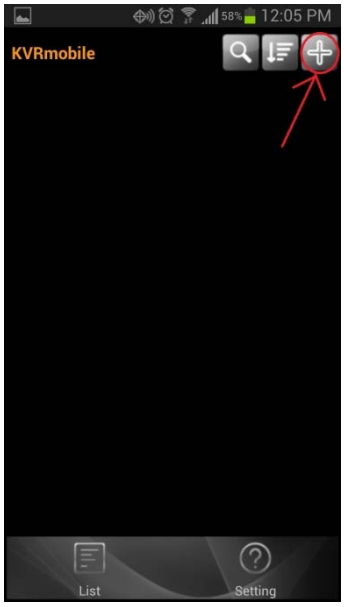


(Executed Program)

12-3 Register the remote site information

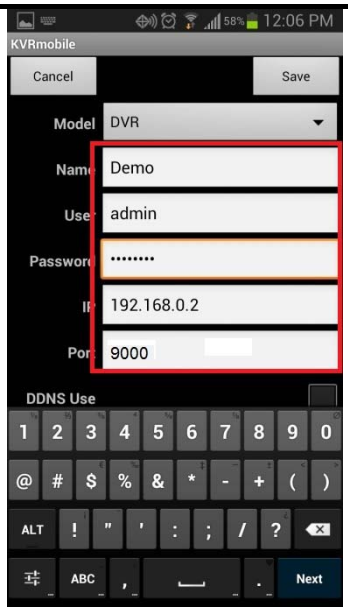
Register the remote site information for remote viewing.

[1] Add



Select "Add" to start the registration.

[2] Enter the DVR information

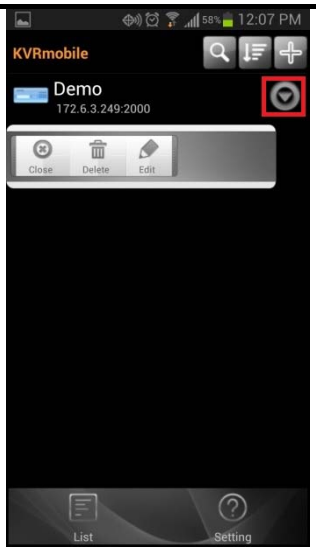


Enter the Name, User, Password, and Port information.

- Name : Enter any name you want.
- User : Enter the "User ID" registered to the DVR.
- Password : Enter the "Password" registered to the DVR.
  (Note : "Menu" → "System" → "Password)
- IP : Enter the IP address or URL.
- Port : Enter port number. (Default : 9000)
- **DDNS Use : This function shouldn't be used and must be set to 'OFF' position at all time.**

12-4 Modify/Delete of Registered Information

If you want to modify or delete the registered information, select the drop down menu on the right side of registered site.



Select to edit the registered info.

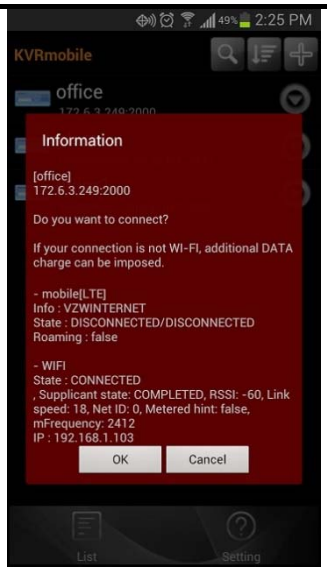
Select to delete the registered info.

Close Tool menu (As a dual function, it ends the connection)

12-5 Remote connection

Select the registered DVR list for connection. Once you click the registered device, it shows the brief information. When you click the red-colored background, detailed information would appear. Click OK to execute the viewing program.

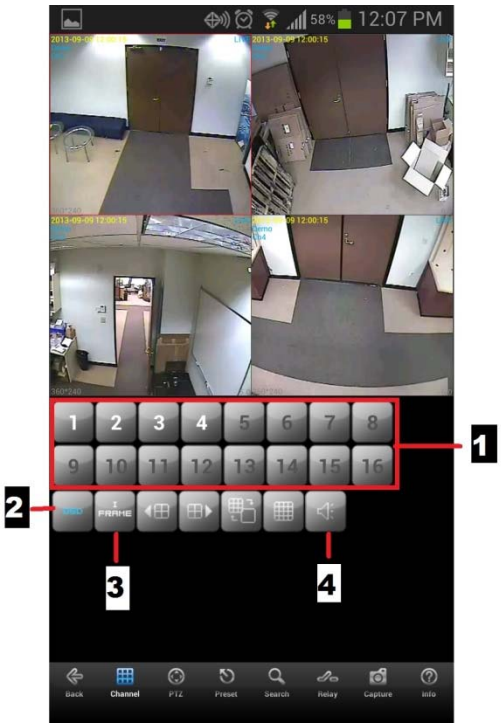
(Select the list)



(Detailed information)

12-6 Live

Live shows the streaming of video from each camera in real-time.



(1) Number : The channel number currently displayed is shown with bold white. When you select a channel, selected channel is displayed in full screen. (The channel number layout could be different by model.)

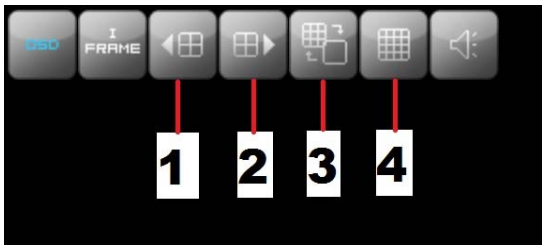
(2) OSD : You can turn on or off the display for channel number, date, time, event, etc.

(3) I frame : It transmits still images with certain intervals in case video streaming is interrupted due to network load.

(4) Audio : When you select a channel, you can listen to the audio of selected channel.

12-7 Multi-screen

Live monitoring by 4 split multi-screen is available.



(1) Move to previous split mode. (4, 6, 8, 9, 10, 13, 16ch split screen available for 16CH version)

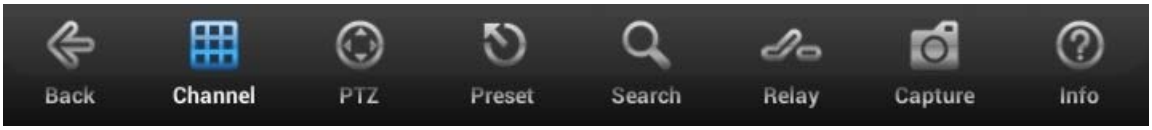
(2) Move to next split mode. (4, 6, 8, 9, 10, 13, 16ch split screen available for 16CH version)

(3) Change channel layout in multi-screen mode.
Example)

1) When monitoring 1/2/3/4, if you want to change CH1 into CH6, select CH1 at first.
2) Then, the screen is switched into CH1 full screen. This time, if you select CH6, then the screen is switched into CH6 full screen.
3) If you click "Multi-icon" like picture, the screen is switched into split screen of CH6/2/3/4.

12-8 Main menu

On the bottom line of screen, there is a main menu. Select the menu to change the function



Go back to the previous step or close the connection.

Move to live mode (Channel change, 1 Frame and OSD display is available)

Go to PTZ mode

Go to PTZ preset mode

Go to search mode

Go to alarm mode

Screen Capture

App registered info.

12-9 PTZ

You can control the PTZ camera remotely.

(Select PTZ mode)

(PTZ mode screen)

(1) Go to PTZ mode

Select the PTZ connected channel and click the PTZ button.

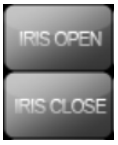
(2) How to control PTZ

The PTZ camera moves to the selected direction.

Zoom in/ out

Focus adjustment

Touring operates according to the previously registered 'Preset' number



IRIS Open / Close

Call the PTZ menu

Auto Focus

OK button for PTZ OSD menu

Cancel or the upper menu on PTZ OSD menu

12-10 PTZ Preset

You can set the movement of PTZ camera previously and make the automatic PTZ movement.

(Select preset mode)

(Preset mode screen)

(1) How to go to preset mode

Select the PTZ connected channel and click the Preset button.

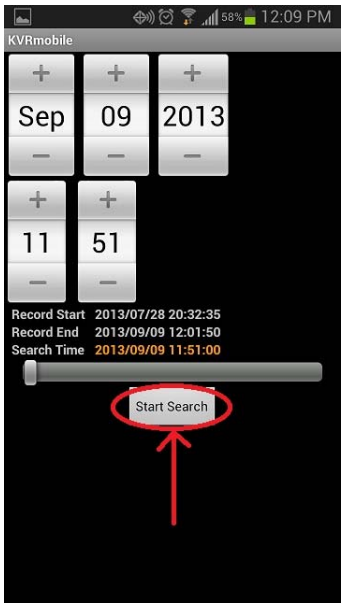
(2) How to operate Preset

- Move : If you select “Move” and press a number, then the camera moves.
- Save : If you select “Save” and press a number, then the current location is saved.

12-11 Search

(1. Select the search mode)

(2. Select "Time Search")



(3. Select the date and time)

(1) Select the search mode

(2) Select "Time Search" : Select "Time Search" to enter the search conditions.
(Note : Select "To Live" to return to the live mode during the search.)

(3) Enter the date and time : Select the date and time and click "Start Search" for search.

Fast reverse playback

Reverse playback

Pause

Playback

Fast playback

12-12 Relay Out

Relay can be controlled remotely.

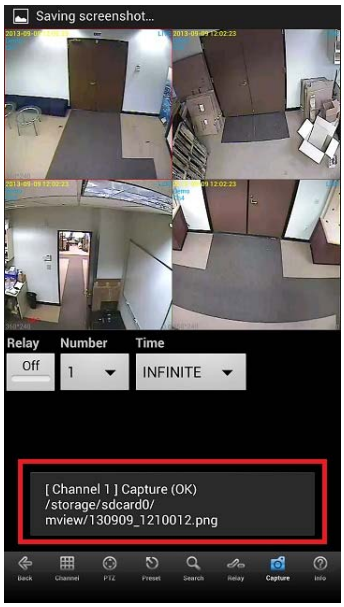
(1) Relay : Select On or Off

(2) Number : Select the relay number.

(3) Time : Select the duration time.

12-13 Screen Capture

This function allows capturing current screenshot.



The screenshot will be saved into your SD card.

12-14 Information display

It shows the information of current connection.

(Select info)

(Display the connection information)

[Display Info]

Below is the example for an explanation.

- IP : 61.250.157.37 : 2000 Via DDNS ← Connected IP information.
- Web code : H6F60CAD00003245 ← Product ID (Webcode).
- Firmware : 100, Network : 23 ← Firmware and Network Device version.

12-15 End the connection

(Select the back button)

(Select the Yes button)

There are several ways to finish the program.

1. When you click 'Back', a message will pop up as "Do you want to disconnect?" You may click 'Yes'.
2. You may just press close button on the phone.

13. Specification

ITEM		4CH	8CH	16CH
Video	Video format	NTSC/PAL		
	Video inputs	4CH	8CH	8CH
	Compression	H.264		
	Video outputs	VGA (1) , Composite (1)		
	Playback	Full screen Quad	Full screen Split (1,4,6,9)	Full screen Split (1, 4, 6, 9, 13, 16)
Record	Total Frame	D1 (30 fps) / Half D1 (60 fps) / CIF (120 fps)	D1 (60 fps) / Half D1 (120 fps) / CIF (240 fps)	D1 (120 fps) / Half D1 (240 fps) / CIF (480 fps)
	Schedule	Continuous, Schedule, Motion, Sensor, Motion+Sensor		
Audio	In/Out	4/1		
Alarm	In/Out	4/1		
Network	Communication	10/100Mbps Ethernet (RJ45)		
	CODEC	H.264 (Dual Codec)		
	Protocol	TCP/IP, DHCP		
Other	Remote access	CMS, Web browser (IE), MAC client, Mobile apps (Android, iPhone, iPad)		
	PTZ control	RS-485		
	Backup	USB Memory stick		
	USB	2 ports (front & rear)		
	HDD	1 x internal HDD		2 x internal HDD
Temp.		0℃ ~ 40℃		
Power supply		DC 12V 3.5Amp		DC 12V 5 Amp
Dimension (W x H x D)		11.73" x 2.24" x 8.07" / 298mm x 57mm x 205mm		14.17" x 2.76" x 13.78" / 360mm x 70mm x 350mm
Unit weight		5.51 lbs. / 2.5kg		7.72lbs / 3.5kg